

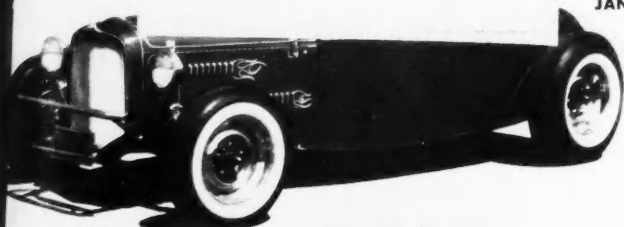
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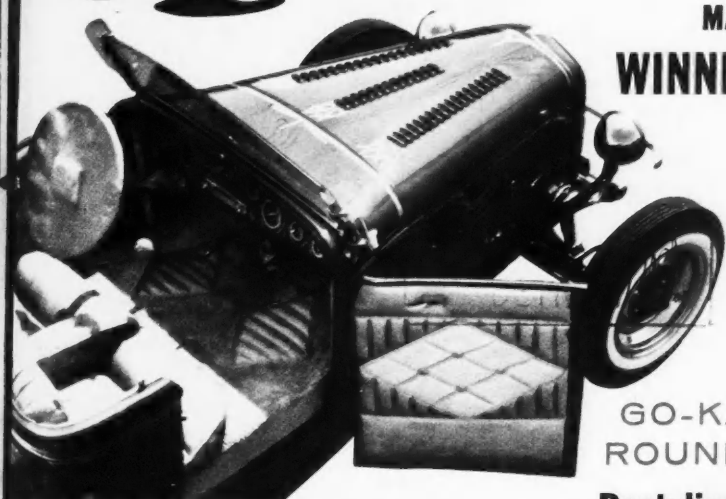
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You'll be as pleased as we are with the new pamphlet that tells all about Go Karting. Many photos of Karts in action as well as views of the new 400 model in kit and completed form. Information and prices on the potent RACE KART are there with a full color exploded view of the 400 and a price breakdown of each individual part. Please enclose 25c for handling.

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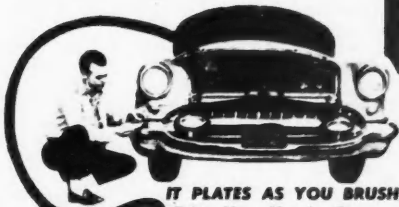
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1959

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Cover

Featured on this month's cover are three shots of Bill Moore's exceptionally well done '32 Ford Roadster. Winner of 23 trophies, the little rod is an attention getter where ever it's displayed. The car has many novel features incorporated into its designing. For full information see page 20.

— Anscochromes by George Barris

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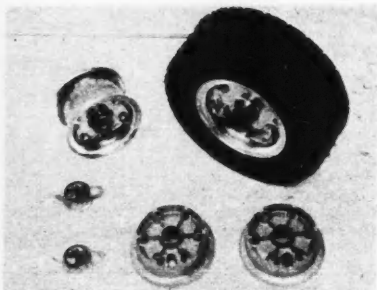
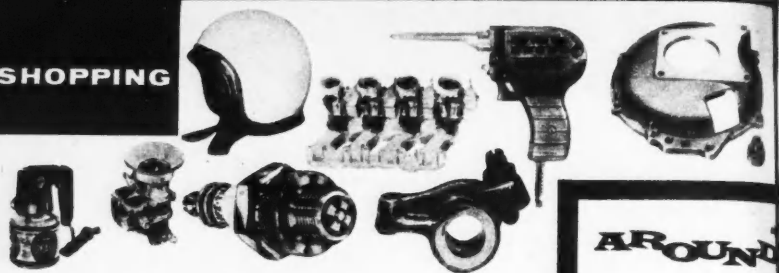
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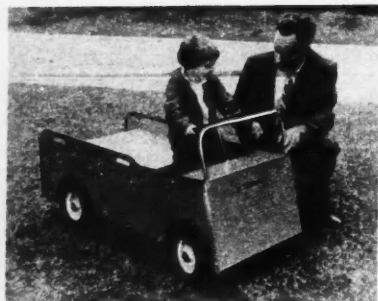
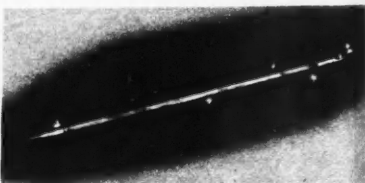


MOSS WHEELS

Specially designed for quarter-midget race cars, Moss announces a new line of competition wheels constructed of honey-combed patterned aluminum. Builder claims a 50% increase in the strength of the units. Available in two sizes. Aircraft self-locking nuts are used in assembly. Knock-off hubs and bearings are optional. Price \$7.25 - 5" size; \$8.75 - 6" size. Write: Moss Engineering Co., 392-cc East Beach Ave, Inglewood, Calif.

POWR-GARD

A replacement dipstick, POWR-GARD is chromeplated to allow you to observe the condition of your oil at a glance. Manufacturer states that the replaceable magnesium element works to neutralize harmful acids and the magnet attached attracts the metallic "junk." Price \$7.95 for set of transmission and engine sticks. Write: New Science Institute, 724-cc N. Lake St., Burbank, California.



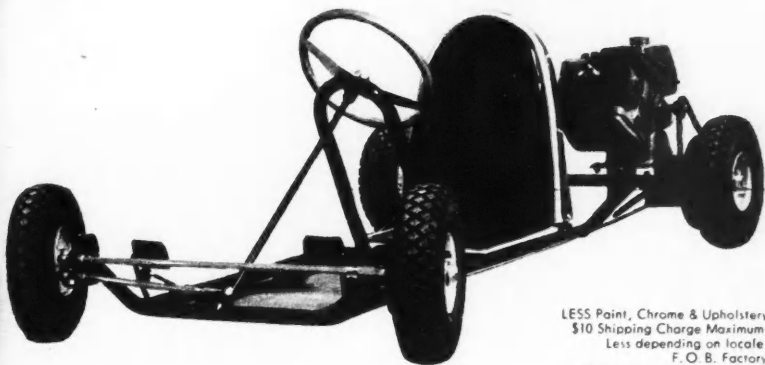
WEE FOLKS WAGON

Latest small car for children. Features battery driven electric motor. Comes with battery charger, two batteries, puncture-proof tires, hand brake, forward-reverse switch and an ignition locking switch. Manufacturer claims that it is not too fast to be dangerous, but fast enough to keep up with America on wheels. Price: \$300.00. Write: Grant and Grant, 241-cc N. Westmoreland Ave., Los Angeles 4, Calif.

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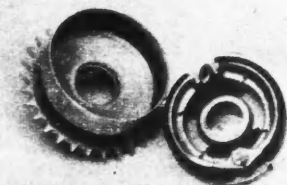
This competition head is claimed to be made of the highest quality aluminum used in aircraft construction. Maximum thin area allows for extreme heat dissipation. Large fins help in cooling process. Designed exclusively for the Continental AU7R engine which can be used in quarter and half midget race cars. Price \$25.00. Write: Hornet Paragon, 2260-cc S. Chestnut, Fresno, California.



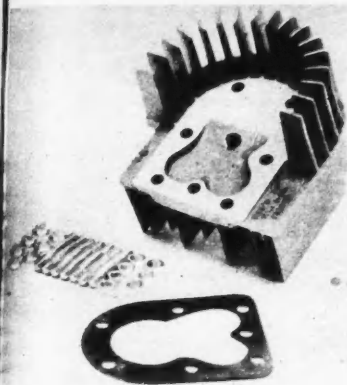
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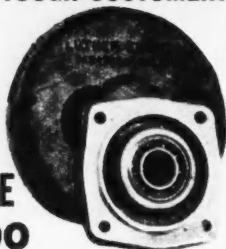
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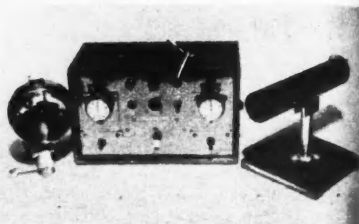
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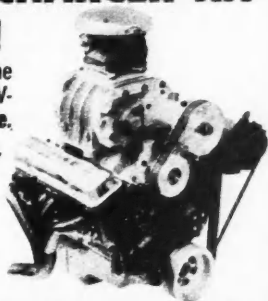
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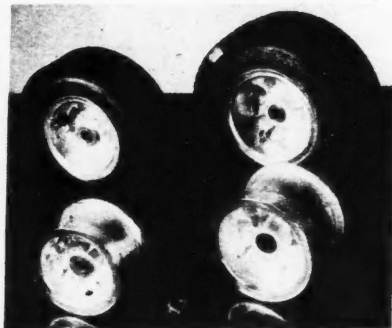
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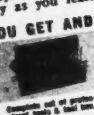
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Dear Sir:

I am sending you a snapshot of my '50 Ford. Originally this car was a club coupe. The top was chopped 3½", the headlights were hand formed with '53 Buick in mind.



The grille is from a '55 Chrysler rear bumper. The bumpers are from a '51 Ford, grille shell is reformed and splash pans are molded to fenders. Hood is rounded and has an airscoop. The side trim is '55 Buick, bubble skirts are hand formed. Doors and windows are operated electrically. The rear quarters are extended 14" with '54 Olds lenses built into them. It has a continental kit, and the gas tank filler is hidden in the trunk. It has a white vinal Carson built top, which is removable. The interior has black and white rolls and pleats and rugs. It is bored, ported & relieved; has Jahns aluminum pistons, Offy heads and manifold, Belond headers, Mallory ignition and a truck clutch. The car is also lowered 5" in rear and 3" up front with blocks and cut coils and reworked A frames. It took over two years to build.

I would be very honored to see my car in your great magazine.

—Edward Meritai
East Paterson, N. J.

PREXY'S CAR

Dear Sir:

As president of the "Kingspins Auto and Rod Club, Inc.," here in Illinois I would like to see one of our cars printed in your magazine. The club has a fine library of auto books, Custom Cars and Car Craft (Honk) since the first issues.

Enclosed is a shot of my '56 Ford Vic,

CONTINUED

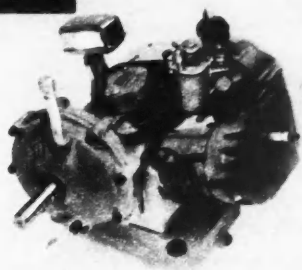
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See your local dealer or send 25¢ for brochure and new price list.

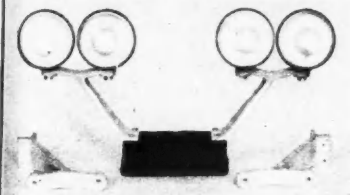
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TORNADO EQUIPMENT

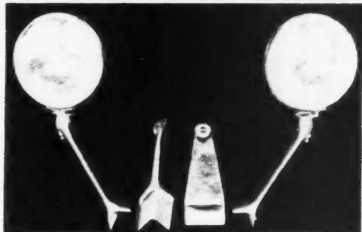


STREAMLINED QUAD HEADLIGHT BRACKETS

Uses small 6 in. diameter headlights with same size seal beam as 1958 cars. Chrome-like finish for that custom appearance. Easily attached to frame. Sturdy aluminum, highly polished. Brackets only.....\$16.95 pr. Headlights, prime painted.....\$7.50 ea. Headlights, chrome plated.....\$9.95 ea.

CHEV V-8 6-VOLT STARTER

Just what you need when installing Chev V-8 engine in flat head Fords, Plymouths, Chev 6s, Jeeps, etc. Requires NO alterations to flywheel. Use your present 6-volt battery and generator. No need to buy new 12-volt battery, change lights, gauges, heater, radio, voltage regulator, etc. Use stock Chev distributor & 6-volt coil. Fits all 55-58 Chev engines except 365 cu. in. Starter & Solenoid \$47.50, F.O.B. \$10.00 deposit required.



TORNADO STREAMLINED HEADLIGHT BRACKETS

Chrome-like finish for that custom appearance. Easily attached to frame. Strong, heavy aluminum, highly polished. Brackets only.....\$11.95

HEADLIGHTS for above. Black enamel, sealed beam. Per pair.....\$16.00

TORNADO HEAVY DUTY STEERING ARM

These are designed to be used in conjunction with 37 to 48 Ford cross steering spindles when adapted to a chassis with drag link side steering. A must on 28 to 31 Model A and 32 to 34 V-8 when changing to hydraulic brakes with the above spindles. \$7.50 (chromed add \$2.50).



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Write Dept. CC-1

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C-1
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Los Angeles 6, Calif.**

LETTERS

CONTINUED

which is well known around these parts and I hope you have room to place it.

I have removed all the garbage from both hood and deck along with door handles and locks. The doors and rear deck are operated



electrically. The gas filler was placed where it belongs in the trunk and parts from Ford/Pontiac make up the rear bumper. A '56 Plymouth grille, Edsel hubs and '57 Ford tail lenses finish off the auto. I have installed fourteen switches under the dash for cut offs for doors, trunk, lights and other equipment.

— Ronald W. Reilly
Chicago, Illinois

If your club has more cars as nice as yours, Ron, we would appreciate seeing them.— Ed.

CLEAN AND COOL

Dear Sir:

I would like to enter my pictures in your magazine. It is a '52 Chev club coupe. It has been painted silver blue. It has been lowered 5" in the front and 3" in the rear. It has been



nosed and decked and the door handles removed. There are pipes and headers and a '50 Olds one piece windshield. The teeth in the grille are sprayed with color chrome, in dark blue and the gas cover is lowered.

— Don Love
Lakewood, Calif.

1959 MODEL MOSS 1/2 MIDJET

MOSS ENGINEERING CO., noted midget race car builder introduces the 1/2 Midget for entire Family Fun; designed for youngsters and adults alike.

BIG OPPORTUNITIES for qualified dealers — Write or Wire Today for full details.

- This Safety-engineered race-ready MOSS 1/2 MIDJET with latest features of today's big race cars.

- Tempered Fibreglass bodies in thrilling colors.

- Fully chromed and upholstered.

- Adjustable torsion-bar suspension for weight transfer.

- Choice of 3 h.p. Continental engine or 7 h.p. McCulloch with clutch.

- Extra sturdy, light weight aircraft-type frame for added safety.



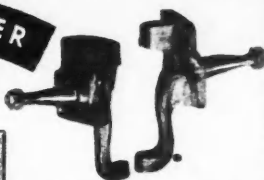
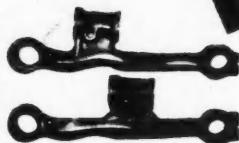
"Handles Like an Indy Car"
Sam Hanks,
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FREE! Write today to Sam Hanks for autographed 1957 Indy racing photo and illustrated brochure on the 1/4 and 1/2 MOSS MIDJET c/o Dept. CC-1

MOSS ENGINEERING CO.

392 East Beach Ave.
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SERVICE CENTER



LOWERING

There are many ways to lower the front of your car. The heating of the coils — the cutting of the coils — but if you want perfect stock ride, the support kit is the only way that does not change the steering geometry. These kits can be installed by anyone with a few hand tools. Instructions are in the kit. If your car is not listed on this sheet, please send for prices.

MAKE OF CAR	YEAR & MODEL	DROP	PRICE
BUICK	*1949 to 1956	2	\$34.95
	1957	2	69.95
	*1949 to 1956	**2	34.95
CADILLAC	1957	2	69.95
	*1949 to 1954	2	34.95
CHEVROLET	1955 to 1957	2	69.95
	1946 to 1956	3	34.95
CHRYSLER (DeSoto, Dodge & Plymouth)	1957	2	69.95
	*1949 to 1953	3	39.95
FORD	1955 to 1957	2	69.95

MAKE OF CAR	YEAR & MODEL	DROP	PRICE
LINCOLN	*1949 to 1951	3	\$39.95
	1952 to 1957	2	69.95
	*1949 to 1953	3	39.95
MERCURY	1954 to 1957	2	69.95
	*1949 to 1956	**2	34.95
OLDSMOBILE	1957	2	69.95
	*1949 to 1956	**2	34.95
PONTIAC	1957	2	69.95
PACKARD	1957	2	69.95
	*1949 to 1957	**2	39.95
PLYMOUTH	1942 to 1956	**2	34.95

SPECIALISTS

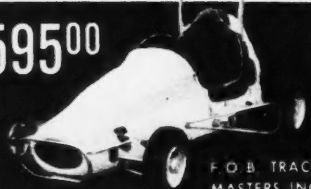
All year models marked thus (*) should also have dropped steering arms installed in conjunction with the lowering supports to insure correct steering geometry. Dropped steering arms are priced at \$10.00 per pair.

All drops are a standard 2 inches but those marked thus (**) may be obtained in a 3 inch drop if desired.

All parts are sold on an exchange basis and a \$10.00 core charge will be made on all kits except the \$69.95 kits which carry a \$30.00 core charge.

PACEMAKER QUARTER MIDGET

\$595⁰⁰



F.O.B. TRACK
MASTERS INC.

NOW AVAILABLE—HALF MIDGETS

- FULLY INDEPENDENT 4-WHEEL SUSPENSION
- BALL JOINT WITH LOWER A-FRAMES AND TOP TRANSVERSE LEAF SPRING
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Gives Longer-
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RACING CAMS Dept. CC-1

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LETTERS

CONTINUED

FIBERGLASS FLEETLINE

Dear Sir:

Here is our conception of a way out of the Chevy Fleetline. Although it is only in the primer as yet, we hope it may serve as a help to other persons who may be customizing this model. This was done on a college budget.



of less than \$200.00. The complete project was accomplished by using a plastic fiberglass product called "Bondo." Since the successful result of our first car, we are doing a small amount of custom work on weekends.

Thanks for your help.

— Bill Rahn and Ray Riley
Wichita, Kansas

We would like to see the finished project, fellows. You have a great start.— Ed.

RIVERSIDE RUNABOUT

Dear Sir:

I enjoy reading your magazine very much. Enclosed is a picture of my white '52 Ford Sunliner convertible. It has a custom top,



electric doors, a '53 Chev grille, side exhaust pipes, bubble skirts, and custom interior.

— Joe Kowaleski
Riverside, N. J.

The installation of the Chevy grille looks especially nice, Joe.— Ed.

make
it
XMAS
every
month!



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CAR CRAFT Christmas gift subscriptions are easy to give - all you do is fill out the handy order form below - we take care of all the mailing details. We even send an attractive gift card with your name inscribed, so be sure to tell us how to sign your name. Don't forget - you may include your own new or renewal subscription at the same bargain prices.

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giver's name _____
street _____
city _____ state _____

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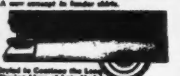
CAR PLAQUES and Matching Jacket Emblems



Chiefs of 10 New and 100 Southern States, South America, and Florida and Louisiana.

If you are proud of your club, here are club plaques and jacket emblems that will reflect and give you credit for your club. They are made of leather, and are available in many colors. They are made of leather, and are available in many colors. They are made of leather, and are available in many colors.

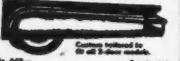
New Cruiser Fender Kit



Designed to cover the fender and hood of the 1936 Chevrolet. It is made of chrome and is designed to cover the fender and hood of the 1936 Chevrolet.

Designed to cover the fender and hood of the 1936 Chevrolet. It is made of chrome and is designed to cover the fender and hood of the 1936 Chevrolet.

CRUISER FENDER SKIRTS for 1936 CHEVROLET



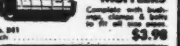
Complete set of fender skirts for 1936 Chevrolet. It is made of chrome and is designed to cover the fender and hood of the 1936 Chevrolet.

ELECTRIC PUSH BUTTON DOOR KIT



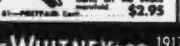
Complete set of electric push button door kit. It is made of chrome and is designed to cover the fender and hood of the 1936 Chevrolet.

HOLLYWOOD Noise Maker MUFFLERS



Complete set of car muffler for 1936 Chevrolet. It is made of chrome and is designed to cover the fender and hood of the 1936 Chevrolet.

"Hollywood" Wolf Whistle



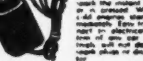
Complete set of car whistle for 1936 Chevrolet. It is made of chrome and is designed to cover the fender and hood of the 1936 Chevrolet.

PIN STRIPPING



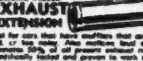
Complete set of pin stripping tool. It is made of chrome and is designed to cover the fender and hood of the 1936 Chevrolet.

KAR-START



Complete set of car starter kit. It is made of chrome and is designed to cover the fender and hood of the 1936 Chevrolet.

FIBRE GLASS PACKED RACKET BUSTER



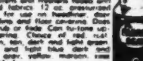
Complete set of racket buster tool. It is made of chrome and is designed to cover the fender and hood of the 1936 Chevrolet.

EXHAUST EXTENSION



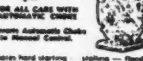
Complete set of car exhaust extension. It is made of chrome and is designed to cover the fender and hood of the 1936 Chevrolet.

Curtain Collar Horn



Complete set of curtain collar horn. It is made of chrome and is designed to cover the fender and hood of the 1936 Chevrolet.

AUTO FABRIC SPRAY



Complete set of car fabric spray bottle. It is made of chrome and is designed to cover the fender and hood of the 1936 Chevrolet.

MANUAL CHOKE



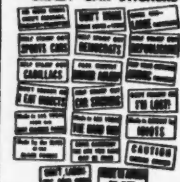
Complete set of manual choke tool. It is made of chrome and is designed to cover the fender and hood of the 1936 Chevrolet.

NEW EXHAUST CUT-OUT

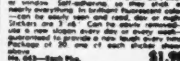


Complete set of car exhaust cut-out. It is made of chrome and is designed to cover the fender and hood of the 1936 Chevrolet.

"Dry-Glo" Fluorescent CRAZY CAR STICKERS

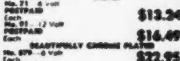


30-SPRINT ELECTRIC SIGN



Complete set of 30-sprint electric sign. It is made of chrome and is designed to cover the fender and hood of the 1936 Chevrolet.

SEALED-AIRY CHROME PLATE



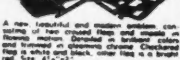
Complete set of sealed-airy chrome plate. It is made of chrome and is designed to cover the fender and hood of the 1936 Chevrolet.

NEW CHROMED HEAD SHIELD



Complete set of new chromed head shield. It is made of chrome and is designed to cover the fender and hood of the 1936 Chevrolet.

IMPALA FLAG EMBLEM



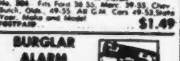
Complete set of impala flag emblem. It is made of chrome and is designed to cover the fender and hood of the 1936 Chevrolet.

BULL NOSE ORNAMENT



Complete set of bull nose ornament. It is made of chrome and is designed to cover the fender and hood of the 1936 Chevrolet.

MANUAL TRUMP KIT



Complete set of manual trumpet kit. It is made of chrome and is designed to cover the fender and hood of the 1936 Chevrolet.

BURGALAR ALARM



Complete set of burgalar alarm. It is made of chrome and is designed to cover the fender and hood of the 1936 Chevrolet.

CONTINENTAL KITS INCLUDING 1939



Complete set of car kit. It is made of chrome and is designed to cover the fender and hood of the 1936 Chevrolet.

Big Brand New Car Plaques

Complete set of big brand new car plaques. It is made of chrome and is designed to cover the fender and hood of the 1936 Chevrolet.



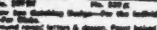
Complete set of car plaque. It is made of chrome and is designed to cover the fender and hood of the 1936 Chevrolet.



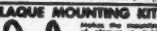
Complete set of car plaque. It is made of chrome and is designed to cover the fender and hood of the 1936 Chevrolet.



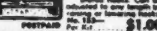
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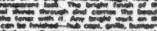
Complete set of car plaque. It is made of chrome and is designed to cover the fender and hood of the 1936 Chevrolet.



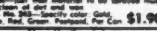
Complete set of car plaque. It is made of chrome and is designed to cover the fender and hood of the 1936 Chevrolet.



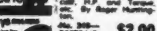
Complete set of car plaque. It is made of chrome and is designed to cover the fender and hood of the 1936 Chevrolet.



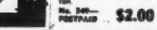
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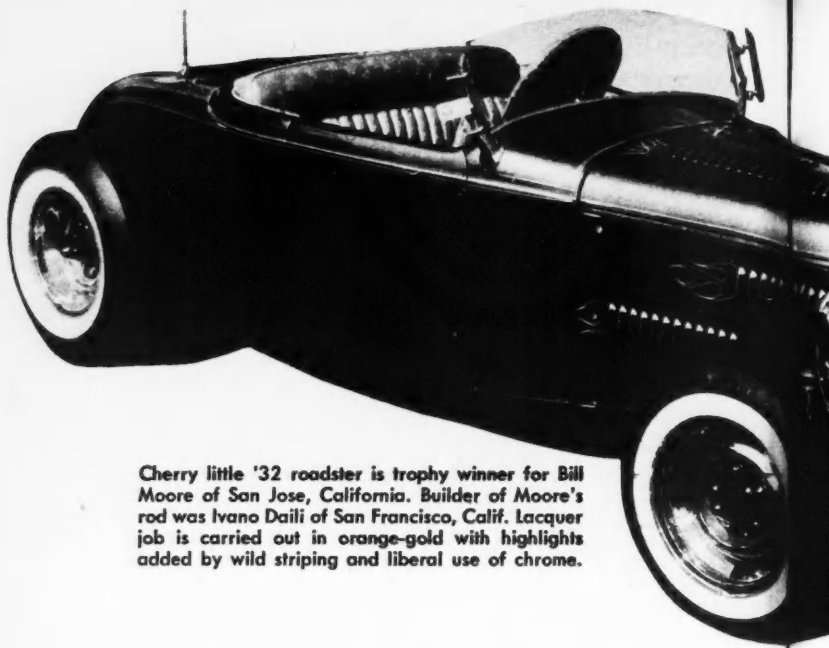


Complete set of car plaque. It is made of chrome and is designed to cover the fender and hood of the 1936 Chevrolet.



Complete set of car plaque. It is made of chrome and is designed to cover the fender and hood of the 1936 Chevrolet.

JC WHITNEY & CO. 1917 Archer Ave. Chicago 16, Ill. C-21

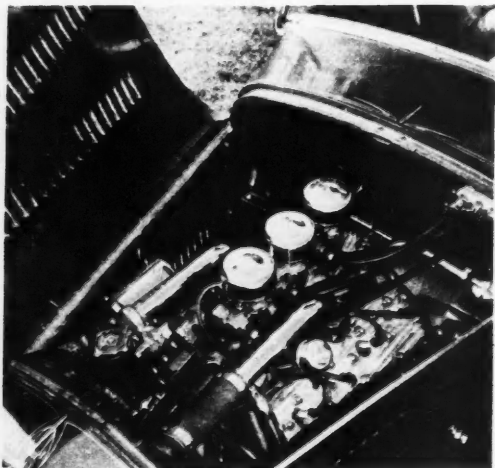


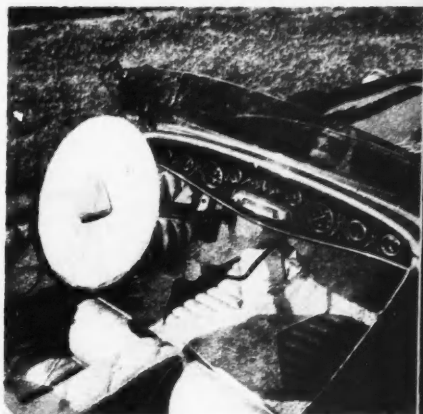
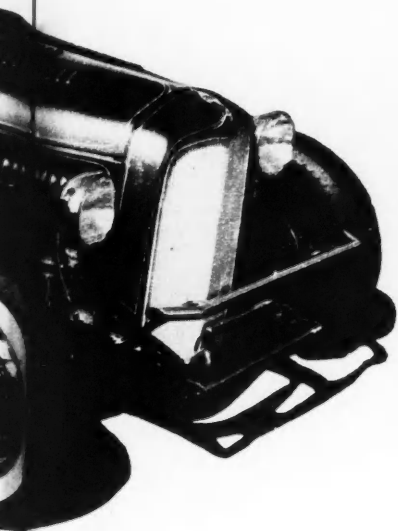
Cherry little '32 roadster is trophy winner for Bill Moore of San Jose, California. Builder of Moore's rod was Ivano Daili of San Francisco, Calif. Lacquer job is carried out in orange-gold with highlights added by wild striping and liberal use of chrome.

RADIANT E

'48 Merc mill with 296 cubes is bored and stroked, has Weber cam, Jahns pistons, Edelbrock 10:1 hi-compression heads, ports enlarged and polished, and 3 Strombergs on an Edelbrock manifold. Note chrome.

Showpiece rod has 3-inch dropped front axle, with tube shocks on car all the way around; anti-sway bar helps to stabilize rear end. '39 Ford trans is filled to capacity with 26-tooth Zephyrs.

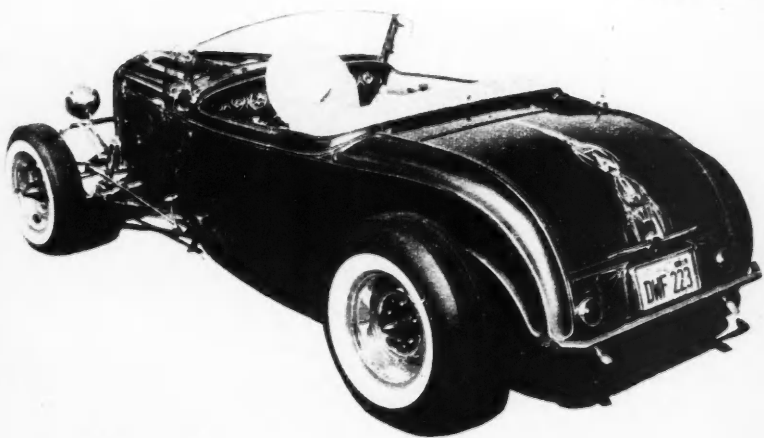




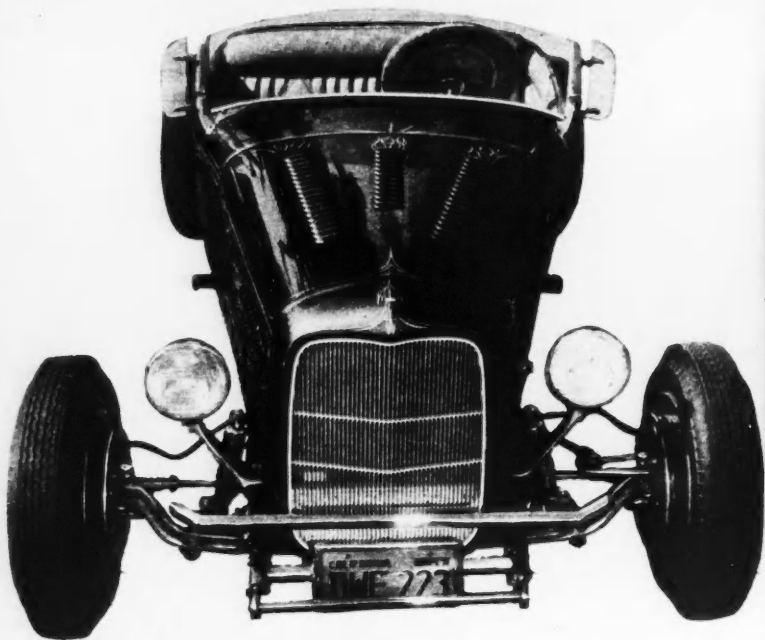
Full complement of important gauges are easy to read by driver sitting in plush upholstered interior. Gold and champagne colored freize and Naugahyde were used.

ROADSTER

Photos by George Borris



CONTINUED



RADIANT ROADSTER

Deuce grille chopped 6-inches and special 3-piece hood with louvers to provide air exit grace front of car. '40 Ford hydraulic brakes are used on roadster as are '50 GMC headlights. Nerf bars protect front.

All four wheels were reversed and are chrome plated. Components used were '48 Merc and '54 Buick on front, and '48 Chrysler, '54 Buick on rear wheels. Center section of wheels have extended bullets.





Rear portion of 6-inch channelled roadster has Pontiac taillights mounted low. Deck is covered with weird stripe work by Jeffries and guarded by tube nerf-bumper. Exhaust pipe tips have been routed downward to keep the exhaust gases from messing up car's finish.

Never to be forgotten in building a show car is the rear trunk compartment. Neatly detailed-out luggage carrier features pleat and roll Naugahyde and frieze material, matching color scheme of interior. Gas tank is the raised section of the trunk.



BLOWERS MAKE WINNERS



WHATEVER ELSE they may have accomplished, the Bonneville Speed Trials and the National Drags at Oklahoma City in 1958 emphasized with record-breaking performances that blowers for competition hot rods are here to stay. A fellow with any idea of attending these meets in 1959 with the intention of bringing home a trophy had better start playing with a blower setup right now; otherwise, chances are he'll be better off staying home and reading about the events in **CAR CRAFT**.

Topics of conversation for hot rodders indulging in their favorite sport of bench racing include everything from reground camshafts to rear axle ratios but the one that invariably creates a sensation of excitement unequalled by any of the others is anything to do with

blowers. Superchargers, the more technical term for blowers, have had this magical effect on performance-minded drivers almost since the beginning of the automobile.

From the terrific interest hot rodders show in superchargers it would seem that there would be more activity with them. Although blowers have been used as standard equipment for short periods of time on a few makes of automobiles and there has been a small group of blower advocates in the hot rod group that has been working with them for years, only during the last two or three years have they become sufficiently popular to form a genuine threat to normally-aspirated engines. Much of the recent popularity is due to the availability of blower adaptor kits now being made by several companies. Some of

CAR CRAFT

Speed records fall as blower equipped dragsters and stream- liners prove super- charging theory

BY DON FRANCISCO

Photos by Rickman, D'Olive

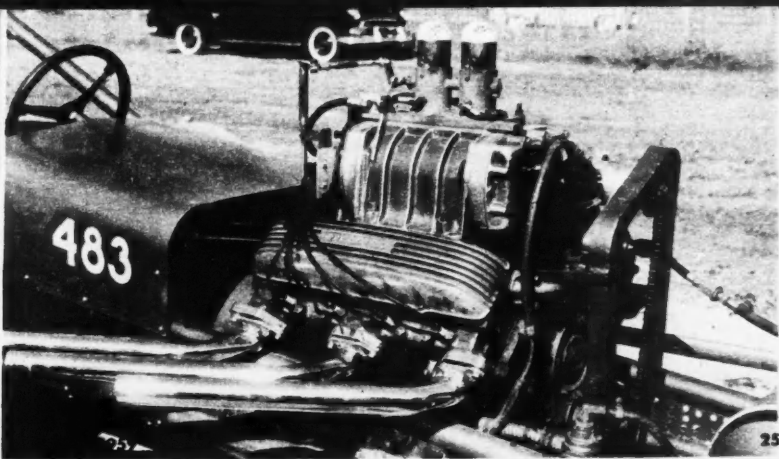
these companies are the Cragar Equipment Co., Latham Manufacturing Co., McCulloch Motors Corp., Potvin Engineering, and Tom Beatty Automotive Engineering. These kits have made it possible for any interested person to install a blower on his engine in the same manner he would install any other piece of bolt-on equipment.

One of the things that have held superchargers back is that a certain amount of technical know-how is required to make an engine fitted with one of them perform as it should and stay together. Combustion pressures in a supercharged engine are so much higher than those in a normally-aspirated engine that it becomes absolutely imperative for the engine to have sturdy pistons, be correctly assembled, and be tuned correctly if it is to withstand these pressures successfully and gain full advantage from the blower.

The big step to a supercharger is the normal one for a hot rodder to take after he has achieved all he can with more conventional engine conversion methods. This is especially true of competition events in which chemical superchargers, such as nitromethane, are banned by rules. In fact, the NHRA ultimatum that only gasoline be used at their meets gave supercharging for competition engines the biggest boost it has ever had. The primary purpose of the ultimatum was to

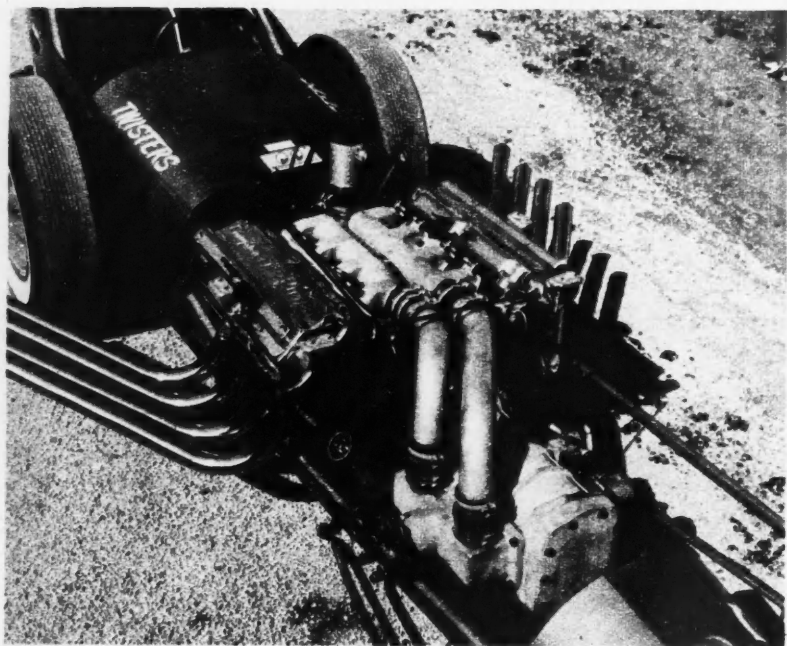
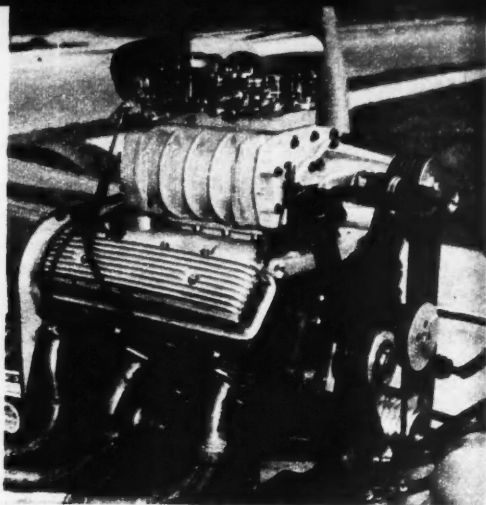
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GMC blower fitted with Hilborn fuel injector on Cadillac ohv engine. Blower is driven by a single-row roller chain of the type used on motorcycles. There's no slippage in a drive of this type.



BLOWERS MAKE WINNERS

This is an exceptionally clean GMC blower installation on an Olds engine. The blower installation kit was made by Tom Beatty Automotive Engineering Co. Carburetion for blower is provided by dual four-throat carburetors made for a Pontiac.



This is one of the more popular GMC blower installations. The blower is mounted on a Polvin adaptor that enables it to be driven at crankshaft speed. The installation is of the "closed-face" type that uses Hillborn injector nozzles in the intake manifolds and throttle valves on the inlet side of blower. Manifolds and outlet housing are aluminum.

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make drag racing safer by reducing the speeds of dragsters to keep them within a safe range for the many drag strips in use. A secondary purpose was to further the mechanical development of competition engines by eliminating the tremendous horsepower boosts possible with the wizardry of chemistry. Immediate drops in speeds were noticed after the gas ruling went into effect but the speeds soon started to rise as fellows began installing and experimenting with blowers. At this time the highest quarter-mile speed for a gasoline burning car is 159.01 mph. This speed was turned by Tom Ivo driving his GMC-blown Chrysler engined dragster at the L.A.D.S. drag strip at Long Beach, California.

There is some controversy among drag racers as to the pros and cons of blower-equipped dragsters. One faction believes that although a dragster with a supercharged engine has a chance of reaching a higher top

speed in a quarter-mile than an unblown car, the unblown car will travel the distance with a lower elapsed time. (This was not borne out at the '58 National Drags. The car that had the lowest ET of the meet, plus the highest speed for cars powered by automotive engines, had a GMC-blown Chrysler engine). Their reasoning for this is that a blown car must necessarily be heavier than an unblown one, due to the weight of the blower and its adaptor, and that the car with the blown engine is harder to drive off the line due to its less sensitive throttle response.

Weight is a critical factor in any drag car, especially dragsters, and it is entirely possible that the weight of a blower and its related equipment could be just enough to tip the clock in favor of a car that isn't penalized with this extra baggage. However, this is drawing the line quite fine and if such a thing is true we may be reaching the point where

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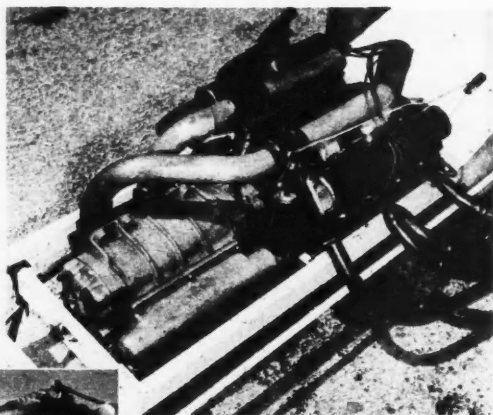


Tom Beatty's Olds powered lakester runs a 6-71 GMC blower mounted on a manifold and driven by parts designed and manufactured by Beatty. With this setup blower is driven by 12 V belts. Car set new Lakester record at 232 mph.

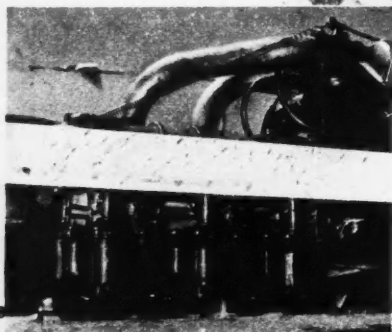
a dragster may require a specially bred fly-weight throttle stomper if it is to have a chance with the competition.

The problem of getting off the line with a blown car as quickly as with one that is unblown because of lack of throttle sensitivity is due to the fact that the blowers now in use don't start to boost manifold pressure until the speed of rotation of the engine's crankshaft reaches a point considerably higher than it is turning for possibly the first third of the way to the finish line. During this time the engine is breathing through the blower and its duct work and this isn't conducive to good carburetion. The car gets under way in good shape when the blower begins to make itself felt but by that time an unblown competitor could be so far ahead that although the blown car reaches a higher top speed due to its better acceleration over the last two-thirds of the course, the unblown car could beat it to the finish line. These are the theories and in many instances they seem to bear out.

BLOWERS MAKE WINNERS



ABOVE - A Potvin GMC blower installation on a Cadillac engine. This installation utilizes intake manifolds of the pre-fab type that were supplied in all early Potvin kits. **LEFT** - Three aircraft updraft carburetors used on the blower shown above. These carburetors provide in excess of ten square inches of venturi.



disc types, and the other is to depend on wheel spin. Wheel spin is the method being eye-balled at the present time by the owners of many drag cars. The method used to gain the slippage is that of moving the engine forward in the frame to take some of its weight off the car's rear wheels. This is a reversal from conventional dragster practice, which requires as great a percentage of a car's weight as possible to be carried by its rear wheels. With an ideal combination of weight on the rear wheels, driving tire tread width, tire inflation pressure, clutch action, and driver ability, controlled slippage and the greater horsepower developed by the engine in a blown dragster should enable the car to consistently establish not only higher top speeds than that of unblown cars, but also to go the distance in lower elapsed times. However, achieving an ideal combination of the many factors required for the correct amount of slippage may not be much easier than the so far unsuccessful effort to orbit a rocket around the moon.

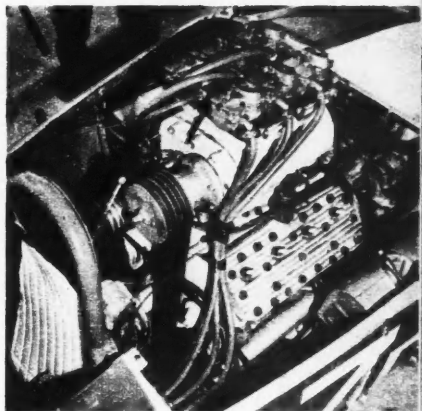
The driver of a dragster hasn't any time for goofing off from the time the starter drops the flag to the time he gets his car stopped but I'm afraid his job will be even more difficult as wheel spin is increased. It is almost impossible to get two tires to grip the surface of a strip exactly the same, and the tire that is getting the best bite is the one that determines the direction the car will want to follow. Fortunately, under most conditions the tires share the driving effort fairly evenly, enabling a good driver to usually keep his car traveling straight. But occasionally a car does get sideways coming off the starting line and, until drivers learn to cope with the greater loss of traction, this may be seen more frequently as wheel spin is increased.

At Bonneville a different condition exists for blown cars. Traction is still a problem but the problem differs from that for dragging in that the traction must be maintained at high car speeds instead of off the starting line. There is plenty of room in which to get the car under way. This eliminates any adverse condition that might arise from poor throttle response at low speeds and enables the brute horsepower made possible by a blower to be used to full advantage.

The really fast cars at Bonneville now are streamliners that are fitted with two or more engines. However, it is interesting to note that the record for these streamliners, which



McCulloch blower on a Chrysler engine. The blower supplies air under pressure to a standard Hilborn injector by means of a fabricated steel box that has separated openings for each of the inlets.



Another GMC installation but this one is on a flathead Mercury engine. Drive for this blower is five V belts and carburetion is by six two-throat Stromberg carburetors with a separate fuel line each.

was established in 1958 by Mickey Thompson in a car with two Chrysler engines, is, at 266.866 mph, less than 29 mph faster than Tom Beatty's lakester record of 232.987 mph established with an open-wheeled car with a belly tank body driven by a single supercharged Olds. Also, Thompson's car had a four-wheel drive chassis that no doubt gave it an edge on traction.

Something that would seem to make a blower desirable for Bonneville is the 4200-foot altitude of the salt flats. At this altitude a normally-aspirated engine loses approximately 14 percent of its sea level horsepower. With a 300 horsepower engine this amounts to 42 horsepower. Losses of this magnitude can cost a car several mph in top speed.

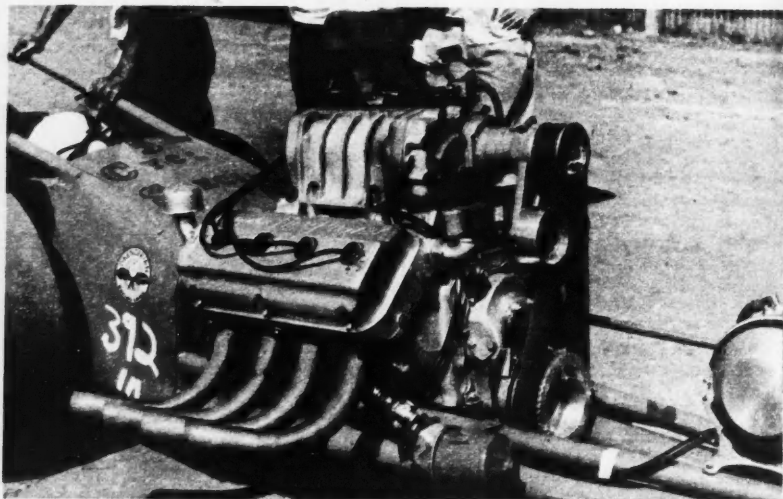
A necessary prerequisite for a budding hot rodder is a greater than average share of mechanical ingenuity in his makeup. The results of this ingenuity were clearly apparent in the many different blower installations seen at the National Drags and Bonneville. Most of the installations were made with

kits available from the companies mentioned previously but in nearly all instances the hot rodder had changed some part of the installation to make it conform to his ideas. Many of the blown engines didn't run as well as they should have but it's not a secret that it takes a lot more time to learn how to tune a blown engine than it does to install the blower. But some of the also-rans at the '58 events may be the boys who shut down the competition in '59.

Blowers seen at Bonneville and the Drags represented the complete line of those readily available at the present time. GMC units of all sizes formed an overwhelming majority but there were also McCulloch and Latham units to be seen. Those of the GMC variety were fairly well divided between installations mounted ahead of the engine and driven directly by the crankshaft and installations on top of the engine and driven by V-belts, timing belts, or by roller chains.

Mounting a GMC blower in front of the engine and driving it directly by the crank-

BLOWERS MAKE WINNERS



Another positive type of drive is provided by a "timing belt." Timing belts are of rubber and steel construction and they have rectangular teeth on their drive side that mesh with grooves in the drive and driven pulley. An idler pulley is used to keep the belt tight. This GMC blower is fitted with a fuel and air metering injector made by Hilborn.

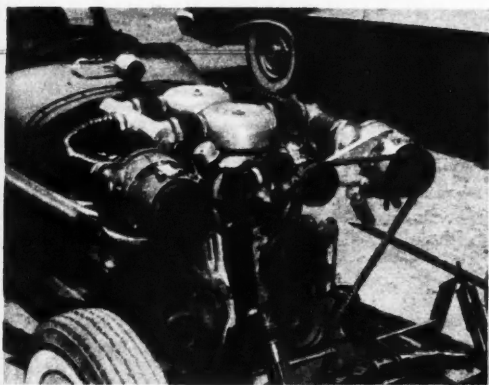
shaft provides the advantage of a positive driving means that doesn't slip, but such a setup has the disadvantage of limiting the blower's speed to crankshaft speed. Limiting blower speed in this manner makes it necessary to use a blower that has a large output capacity in relation to the size of the engine if adequate manifold pressure boost is to be realized. A blower mounted on top of the engine and driven by belts or a chain can be driven at any desired speed in relation to crankshaft speed by using driving and driven pulleys or sprockets of the correct diameters. This enables a small blower to give the same results as a larger direct-driven blower, or for a larger blower to become effective at lower crankshaft speeds and to deliver a higher maximum manifold pressure boost to the engine at high engine speeds than it could if it were operated at crankshaft speed.

The disadvantage of a V-belt drive on a blower capable of high boost pressure is that the life of the belts is comparatively short and there is a good chance that the blower's

output will be restricted by belt slippage. Under some conditions timing belts and chains can be harmful to a blower simply because they don't have any slippage. Some degree of flexibility between the crankshaft and the blower's driven shaft is desirable during rapid engine acceleration and deceleration so the gears and other moving parts in the blower will not be damaged by inertia forces when sudden changes are made in their speed of rotation. This is not as important with a direct-drive blower because its speed of rotation in relation to the crankshaft is considerably less than with belt or chain-driven setups.

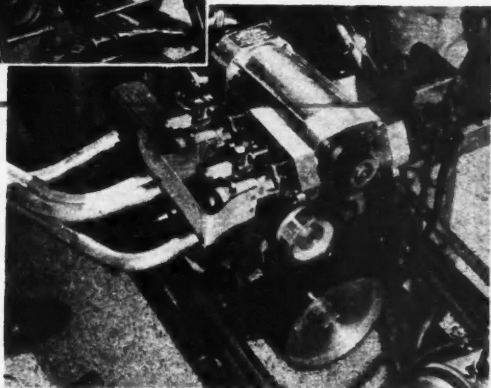
Fuel was fed to engines fitted with GMC blowers through many different arrangements. Blowers mounted on top of their engine had either multiple carburetors or Hilborn injectors that bolted to their inlet side. Those mounted on Potvin and other direct-drive adaptors were fitted with three different types of carburetion systems. One of these was

continued on page 76



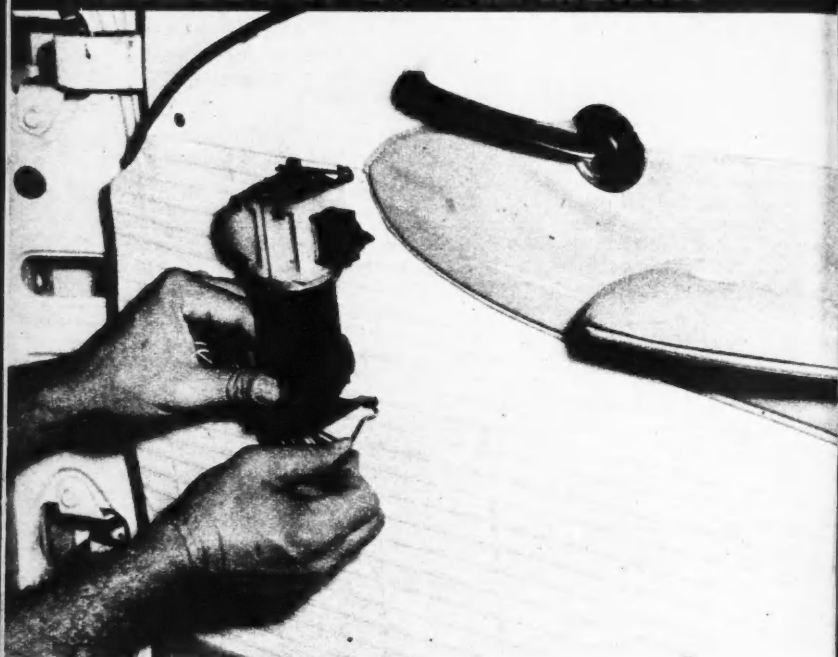
Two McCulloch blowers connected in parallel, as on this engine, double the quantity of air delivered to the engine. If the blowers were connected in series, as in two-stage setups, the pressure of the air, instead of the quantity, would be increased. Blowers feed two carburetors of type used on Fords.

The high drive ratio of the compact Latham blower on this Chevy V8 is indicated by large diameter drive pulley and small driven pulley. High impeller speeds are important in this type blower to enable it to pump the air necessary for big engines.

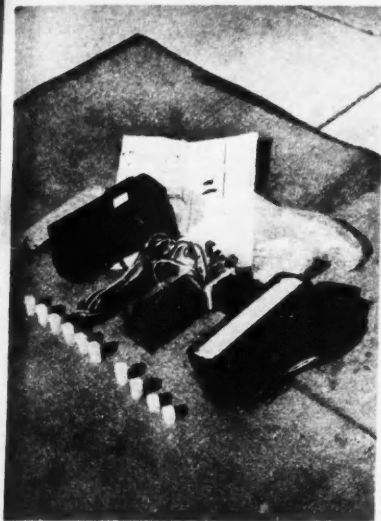


ELECTRIC WINDOW LIFTS for all cars

ACCESSORY OF THE MONTH



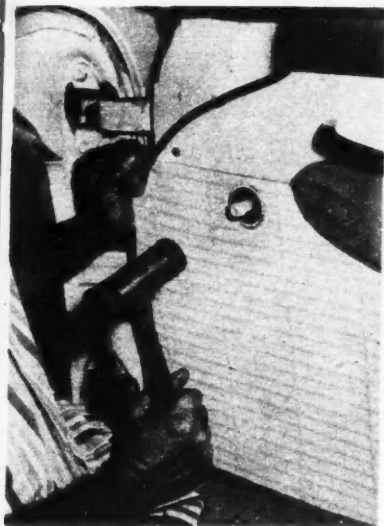
IF SOMEONE TOLD you that power windows for your car were only as far away as your nearest automotive accessory store—you would more than likely cast a doubtful look in his direction. Then when he added that all this luxury could be had for the inexpensive price of thirty-five dollars—you'd know that the men in the white suits were not too far off. But the facts are true. The AMT Corporation has just released a revolutionary self-contained power unit for converting manually operated windows to electrically operated windows in one easy step. The power window-lifts, universal and smartly designed, can be adapted to any model within an hour's time. The installation, merely a bolt-on procedure, proves such an easy task that even the door paneling is left undisturbed. After removing the standard handle cranks, the power units are slipped onto the window crank's shaft, secured by means of specially designed clips, then wire neatly routed to electrical connections. The power-lifts are available for either 6 or 12 volt electrical system; specify when ordering. For further information write: AMT Corporation, 200-cc Briggs Building, Birmingham, Michigan.



1. Window-lifts come ready to install with full instructions for wiring. Price \$35.50.



2. After removing handle cranks it's a good idea to trim rough edges of opening.

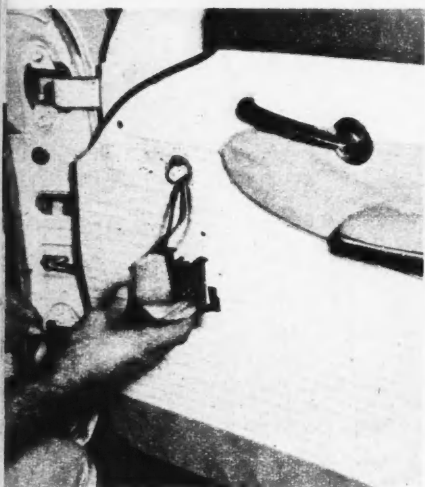


3. Nylon ball adapter is installed. Make sure that serrations on shaft/crank match.



4. Power unit is now slipped into position and attachment holes marked, then drilled.

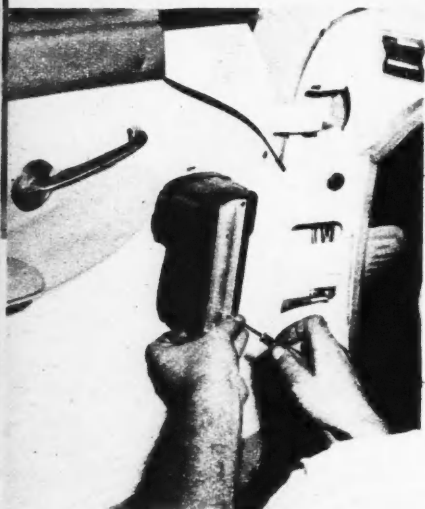
ELECTRIC WINDOW LIFTS



5. Wiring is fed through shaft's opening, then strung along hinge and up to dash.



6. Power unit is now secured to door with specially designed clips furnished in kit.

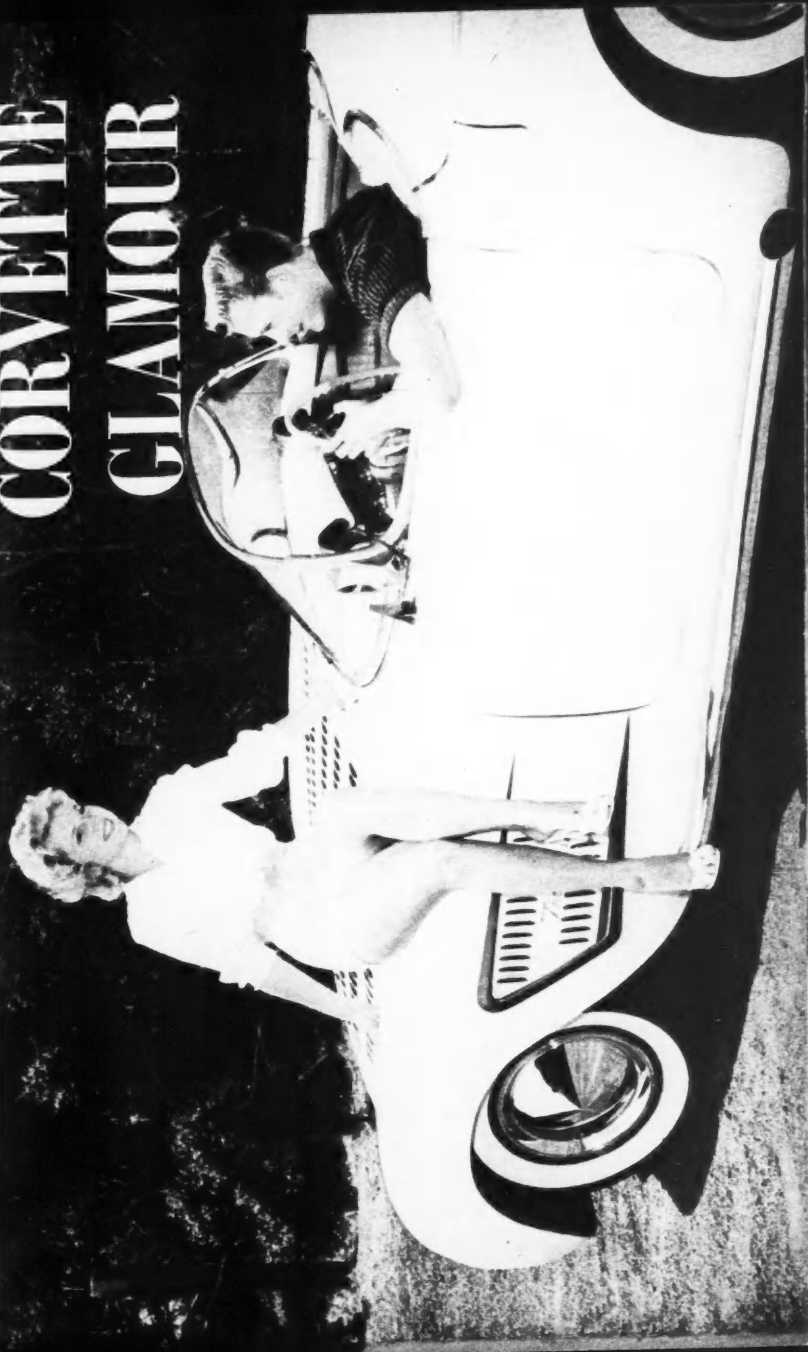


7. Buttoning up the unit consists of wiring, then adapting the attractive cover shield.



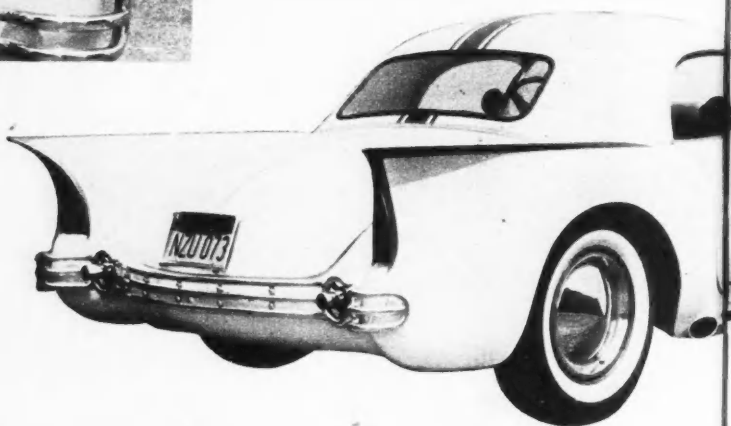
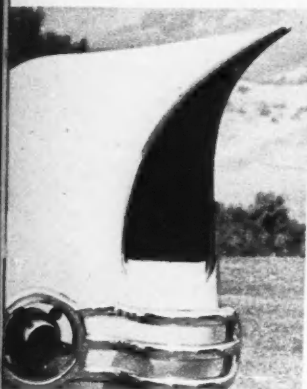
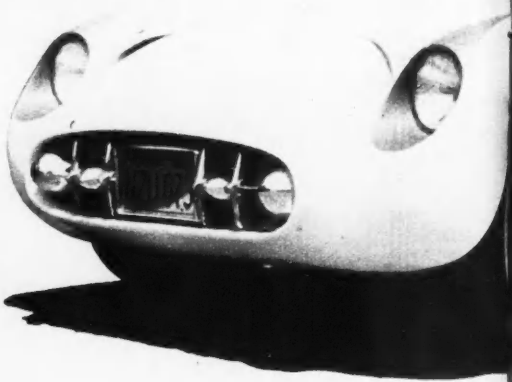
8. Driver's unit features dual controls while the passenger side has a single button.

CORVETTE GLAMOUR

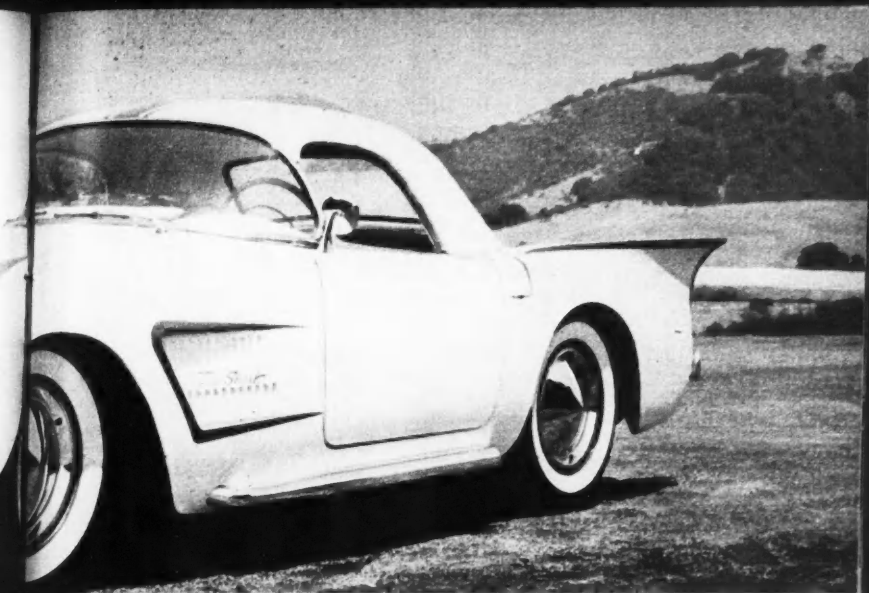


CORVETTE GLAMOUR

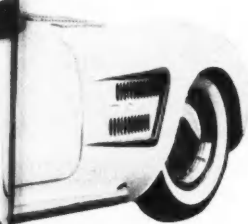
OWNER
Bob McNulty
BUILDER
Owner



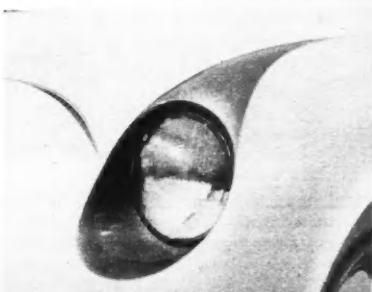
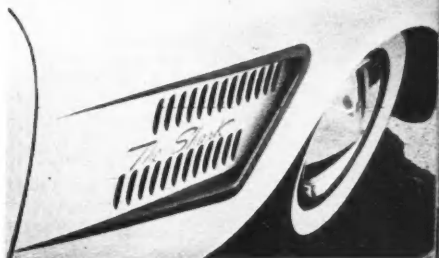
Outward sweeping fins are formed of fiberglass and contain handmade red Lucite lenses. Car receives sparkle from Moon discs, lakes pipes and nerf-bar type bumper separated by chrome accessory knobs. Bob has taken home five first place trophies from auto shows.



Bob McNulty bought his '55 Corvette in a wrecked condition for \$600 and by doing all the work himself rebuilt the car to its present immaculate shape for \$500. Grille consists of Corvette "teeth" and chrome spinners mounted neatly in the extended nose section.



Photos by Frank Faraone



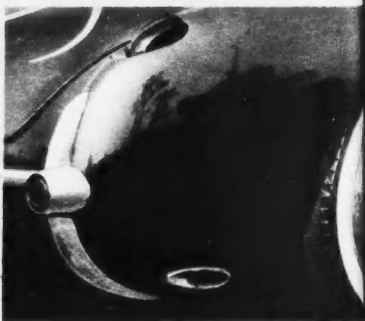
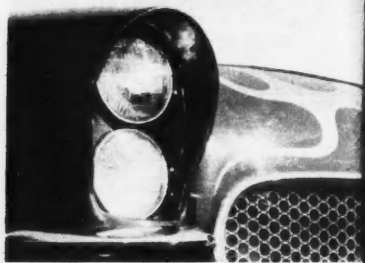
Side vents and hood were made from aluminum so they could be louvered. Slit-type air-scoops allow more air to the engine.

CORVETTE GLAMOUR

OWNER
Darol Jorgensen
BUILDER
Owner



Pleat and roll interior was done in white Naugahyde with red beading by Darol's mother. Floor rugs are done in contrasting red with white trim. "Glitter" covers dash.



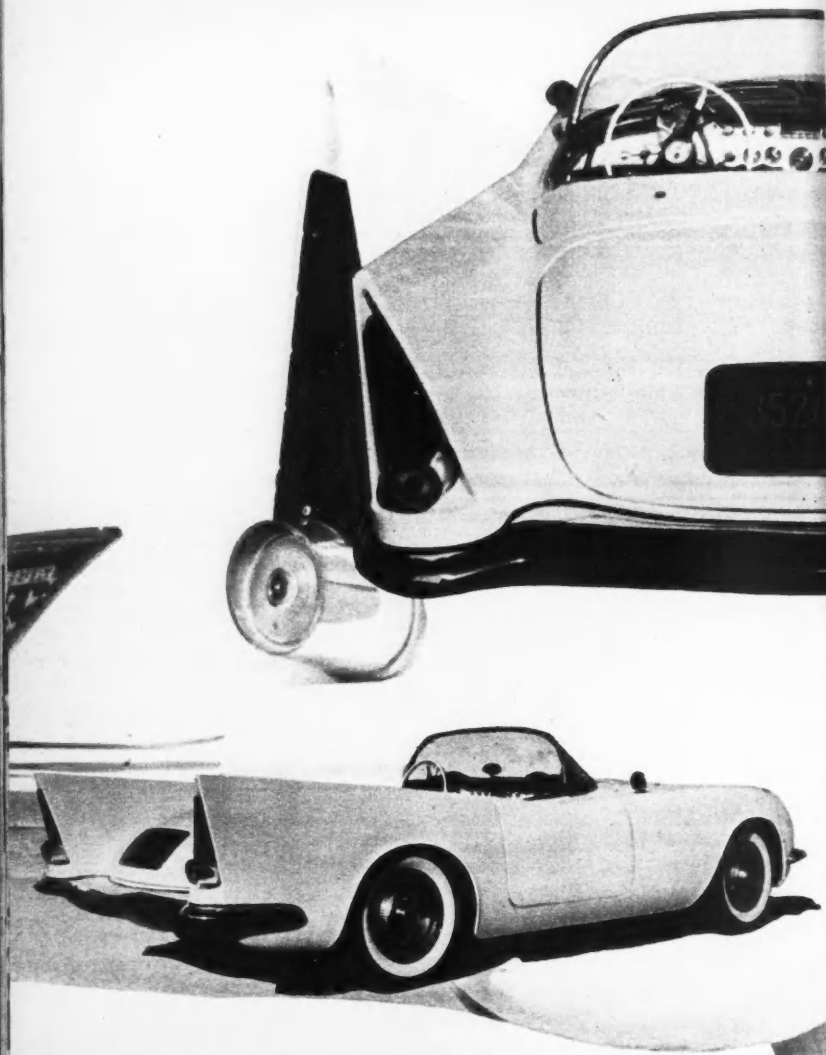


Another do-it-yourselfer is Darol Jorgensen of South Gate, California. He used fiberglass for all modifications. Taking advantage of a recent styling trend, he used an Impala top scoop. Car is painted Candy Red/Gold scallops.



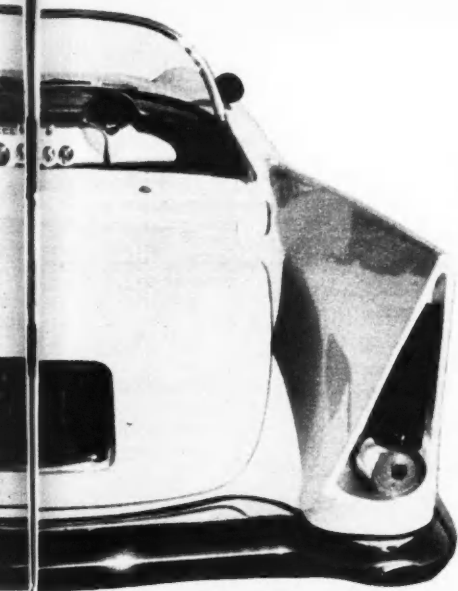
Photos by Pat Brallier

Front fenders are extended to provide "shades" for '58 Ford quad headlights, mounted vertically. Mesh grille also came from a '58 Ford. Stock scoops atop fenders were dressed up with trim "teeth." '55 Oldsmobile taillight lenses are frenched into rear fenders. Finding still another use for the versatile Buick portholes, Darol mounted them in the lower edge of the rear fenders to accommodate back-up lights. Hubcaps are '55 Dodge Lancers.



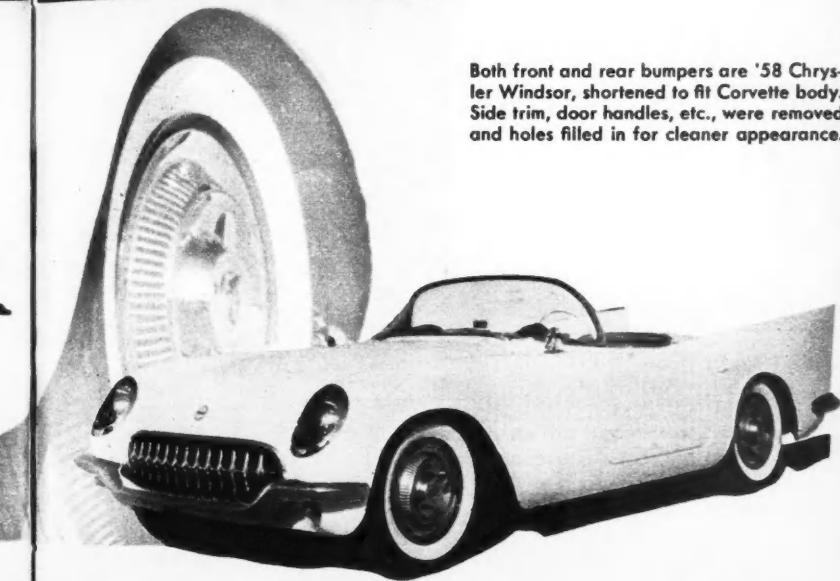
CORVETTE GLAMOUR

OWNER
Al Gratz
BUILDER
Gratz Body Shop



Al Gratz, who owns his own body shop in Fort Wayne, Indiana, rebuilt this Corvette from a total wreck — incorporating a few ideas of his own. Fiberglass was used.

Most radical change was in the rear section where large fins were formed, starting in the door panels and rising rearward. Tail-lights and back-up lights are '57 Plymouth.



Both front and rear bumpers are '58 Chrysler Windsor, shortened to fit Corvette body. Side trim, door handles, etc., were removed and holes filled in for cleaner appearance.

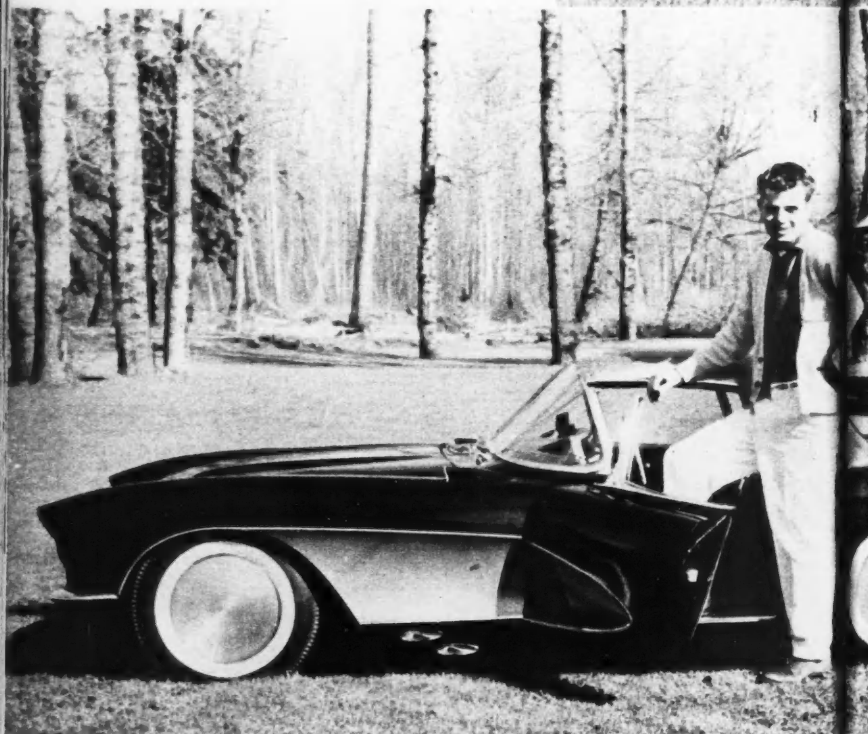
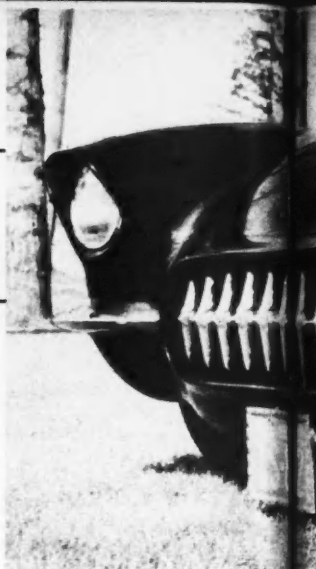
Photos by George Barris

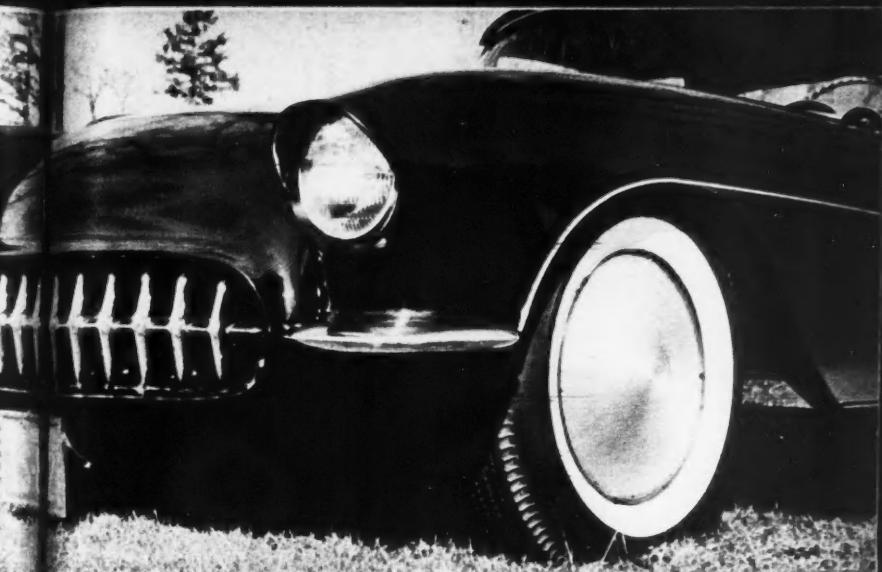
CORVETTE GLAMOUR

OWNER
Bob Caldwell
BUILDER
Hoeck Chevrolet

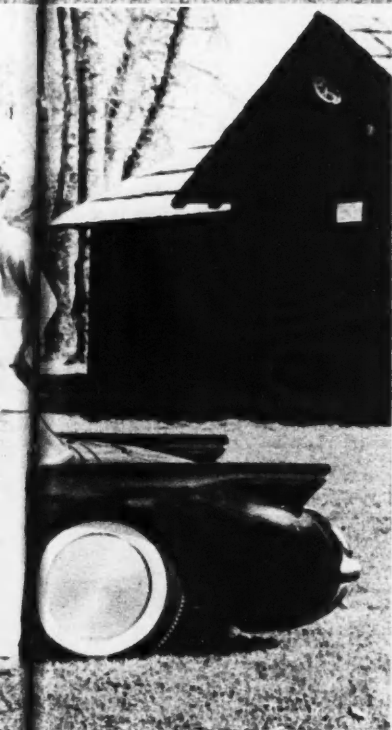
Photos by Bud Lang

Distinctively different grille appearance was achieved by working with only stock components. Original grille shell has been molded to the fiberglass body, with an extension lip of four inches added; the lip is slanted forward and downward. Grille bar and teeth are stock.

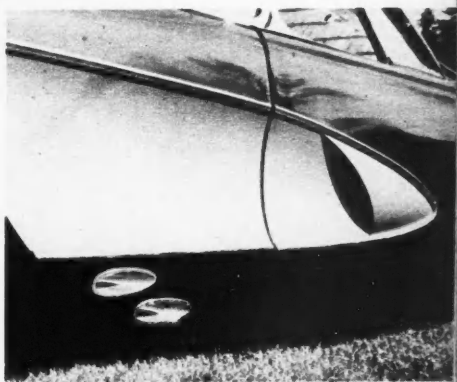


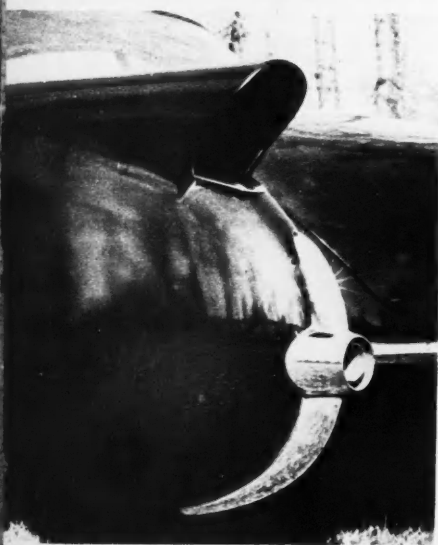


Owner Bob Caldwell, Lebanon, Oregon, rests his elbow on the roof of the '57 Corvette which he has no difficulty in towering over due to its low profile. Car was dropped through use of spindles and lowering blocks.



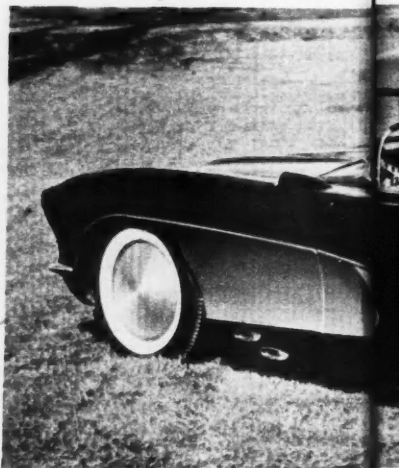
Corvette was up-dated to '58 by addition of air scoops in doors which are functional. Clever custom trick is the mounting of late model Buick portholes in staggered position.

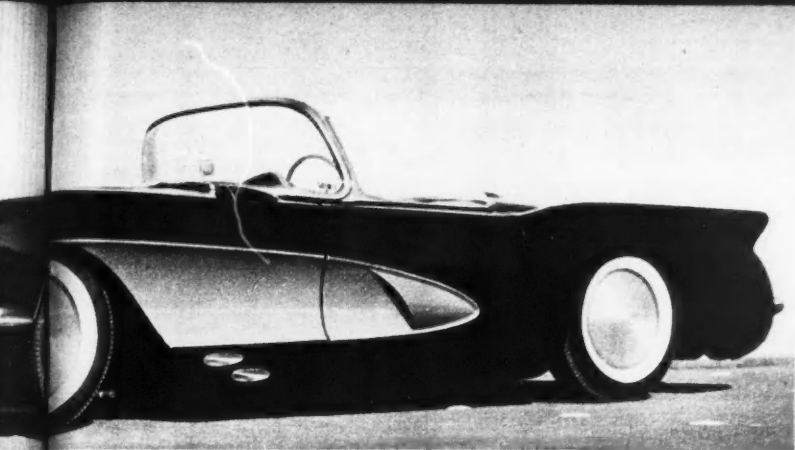




Headlights were given the custom touch by a french job. The lights are hooded and have been reworked on six-inch extenders in fenders. Smooth fiberglass customizing work performed by owner and Hoeck Chevrolet to

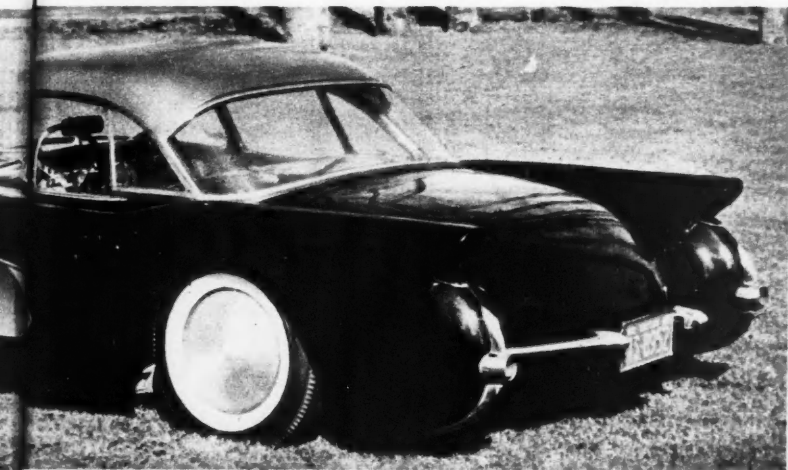
Long hoods reaching a total of 16-inches in length were molded to the rear fenders to add a completely different look to the Corvette. Taillights remain in stock position





much by
and unnecessary body trim was given the "deep six" and holes neatly plugged with
tender in soaked glass patches. Restyling a Corvette can really be turned into a back
ward project due to fiberglass body which can be worked over with a minimum amount
of tools and a basic understanding of "do's and don'ts" of fiberglass fabrication.

The interior of crazy Corvette was left in its original race-bred design. The exterior of
the fiberglass fantasy is black and gold lacquer. Speedster, in full street trim, has
Corseamed through the quarter mile at 107 miles per hour. Caldwell spent a total of four
months spare time of "many hours, lots of sweat and a few bucks" customizing his car.

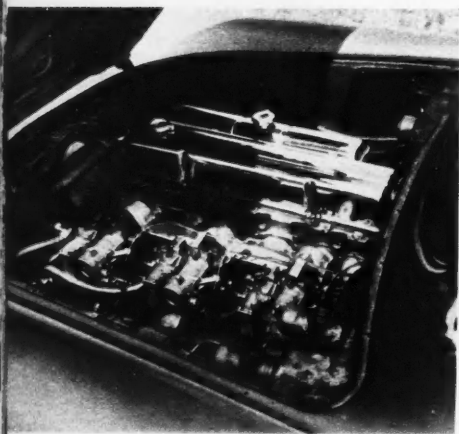


CORVETTE GLAMOUR

OWNER
Rudy Valentino
BUILDER
Bruno Custom

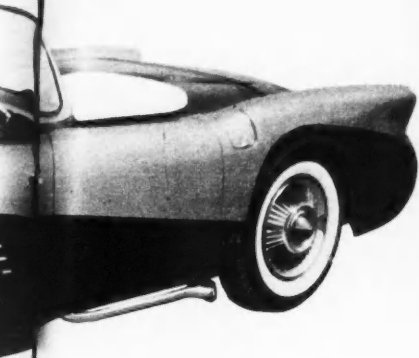


Rear blinkers were junked in favor of 1948 Ford lights which were installed vertically and frenched-in. Fenders were extended to fit the units. Overall contour was not changed radically, but just enough to lend it a custom appearance. Note workmanship.



Able to get the job done, very well indeed, is a full race G.M.C. engine which fits very neatly in engine compartment of Corvette built by Rudy Valentino of San Fernando.



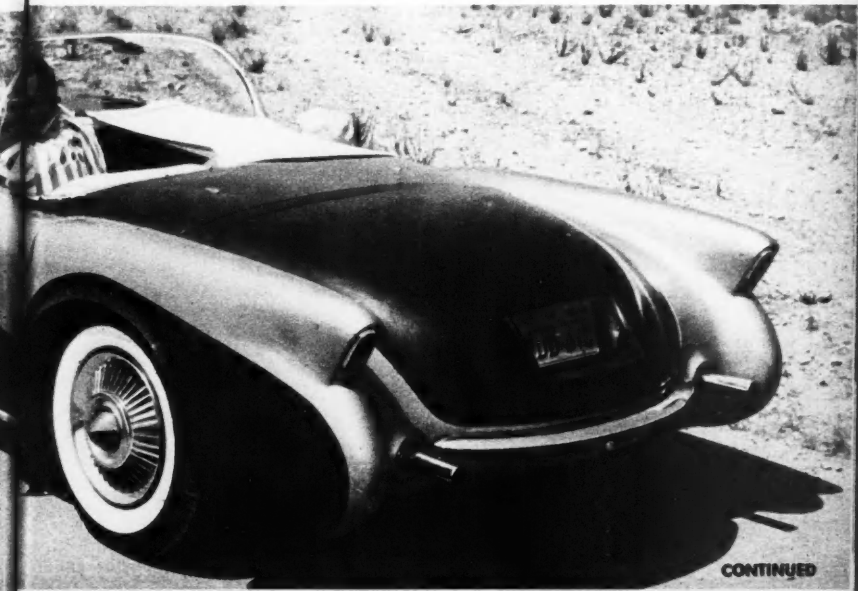


Scoops were built into the sides of the front fenders, hood, and alongside grille cavity. Grille is handmade of one-inch "U" channel bars with parking lights added to ends.

The stock headlights were changed by first removing the wire screen which covers the opening and then chroming the inner flange which leads into the headlight unit itself.

Photos by George Barris

Color combination of cool Corvette is carried out in gold and black enamel paint. Interior is stock, but roadster has a full tonneau cover for the cockpit. Accessory hubcaps with bullets, short laces plugs mounted just before rear wheels and whitewalls add to beauty.



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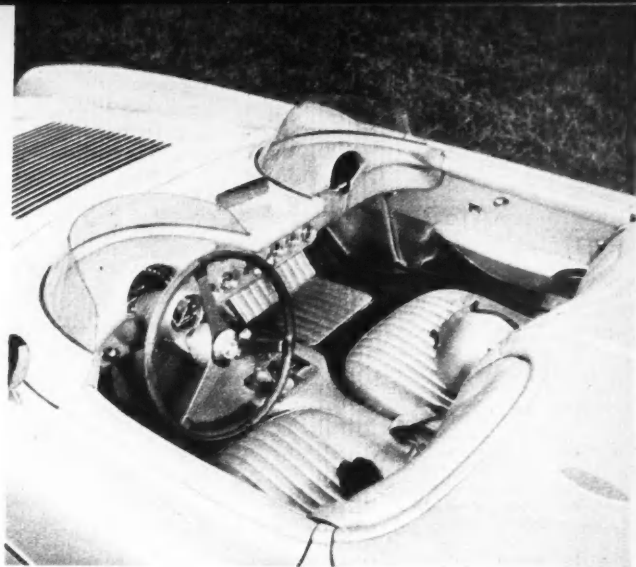
CORVETTE GLAMOUR

OWNER
Jerry Earl

BUILDER
General Motors



Constructed by the General Motors Styling Studio for Jerry Earl, son of Harley Earl, G.M. vice president, this Corvette is the SR-2. Starting with a stock '57 body and chassis, the Corvette was customized with the main objective in mind being racing. Nose section is extended with stock grille.

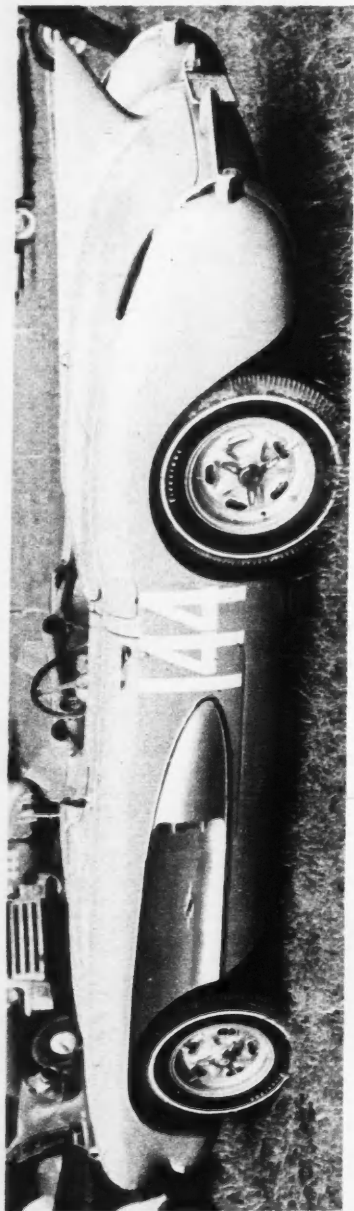


Small racing screens were added to cockpit area in place of windshield. Blue leather upholstery in pleat and roll design is used to brighten interior. Tachometer and fire extinguisher were added for racing purposes.

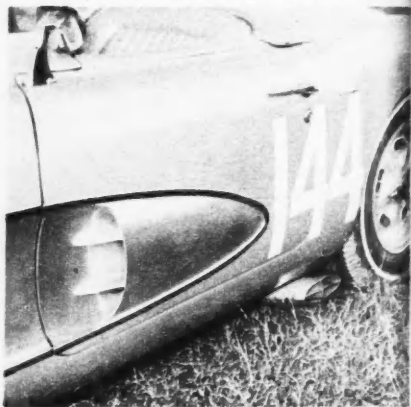


Photos by Dean Batchelor

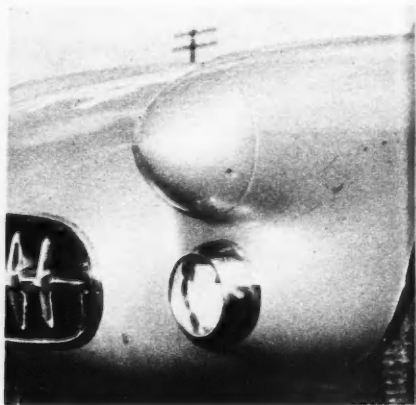
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Tail section has pointed fin molded to the deck. Taillights were the first of the units which later became stock items, Magnesium racing wheels are used on Earl's Corvette.



Functional air scoop was built into the door panels and serves to direct cooling air to the brakes. Teeth lead into scoop. Concave fender section was built of aluminum sheet.



Plastic covering for headlights add much to the streamlining of the Corvette; they are removed for street use. Parking lights are special units that are taped for racing.

GENIE

with a torch

**New York enthusiast creates sports
custom from forty-eight Buick**

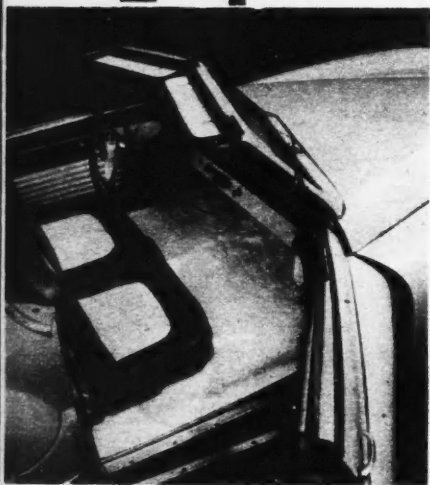
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Stock '48 Buick fenders were mated with '55 Chevy headlight rims and 5½ inch sectioned Buick convertible; further lowering was achieved by channeling the roadster another 7 inches. Grille is composed of a '48 Buick outer shell without wording, and '56 Dodge truck bar. Lights

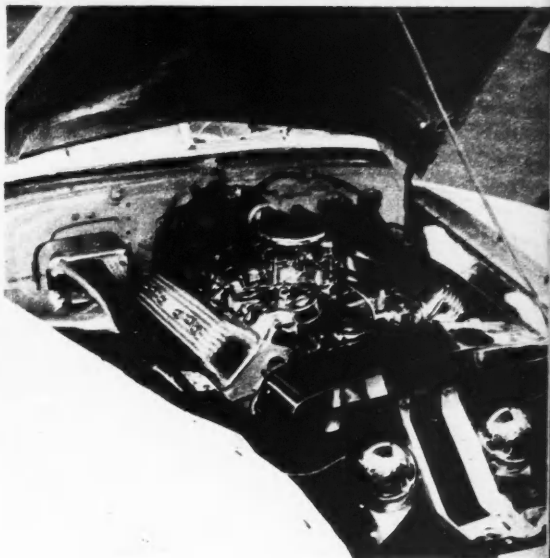
GENIE with a torch



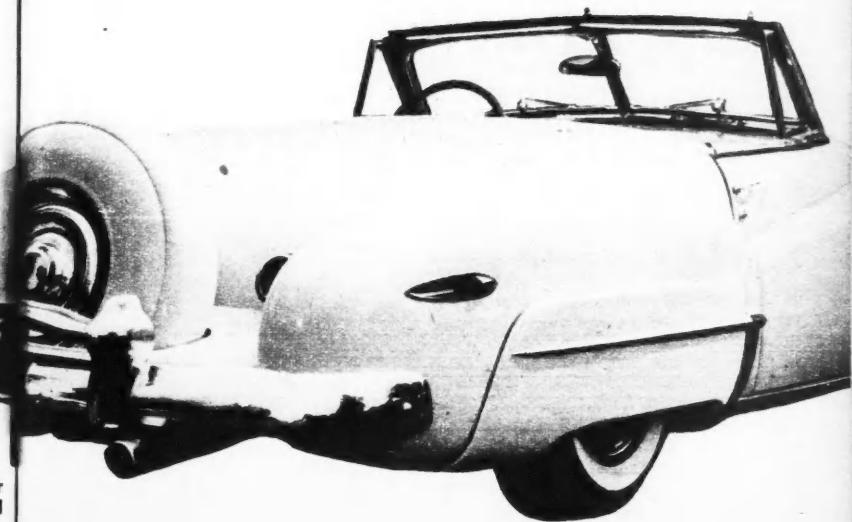
Photos by Xenophon Beake

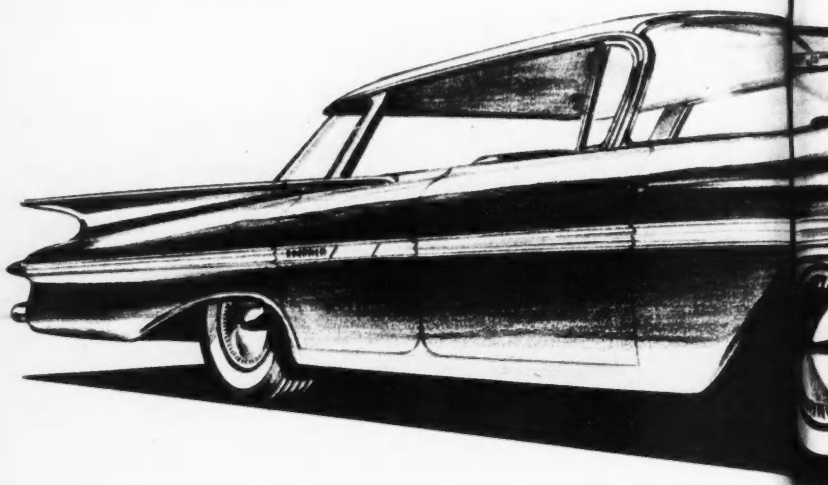
Olds steering wheel and instrument cluster are used, as is custom-made dash. Red and white pleat and roll Naugahyde covers seat.

Glistering with chrome, '50 Olds engine features milled heads, port and relieve job, .125 over-bore, hot ignition, 4-barrel carb, and made header and exhaust system. Every component which could be removed was given a chrome "dip" treatment and the stationary parts are painted in the spotless compartment. The radiator is 1948 Studebaker.



ed Buick parts show up well in rear view. Deck is made from Hudson Terraplane, continental es. It is handmade on 22" shortened car. Stock '48 Buick fenders are retained. Pontiac stop ar. Lights can be barely seen on deck. Chuck Durso required 3 years to build his creation.





BARRIS KUSTOM RESTYLES THE '59 CHEVROLET

EACH YEAR THE public anxiously awaits the introduction of the new model cars. When they are finally put on display, they are met with varying degrees of acceptance. Comments ranging from "absolutely beautiful," to "boy did they goof" can be heard circulating around the showroom floor.

Customizers look at them differently. If they don't agree with a particular styling feature, they figure out a way that it can be improved upon. Sometimes it amounts to a radical restyling job, but more often it can be corrected with a mild changing of components.

This month, we had George Barris take a



George Barris



ILLUSTRATIONS BY DICK COLLIER



look at the '59 Chevrolet Impala Sport Sedan. What he saw, he liked, but felt that a few changes were in order nonetheless.

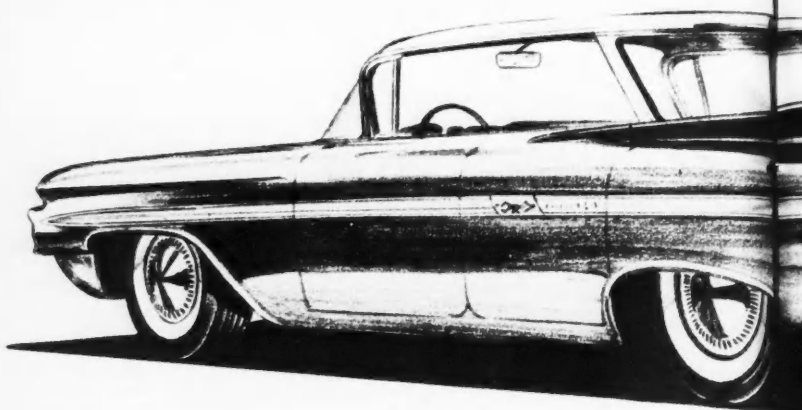
BODY MODIFICATIONS

Aside from a moderate lowering job of two inches, George left the body in stock condition. The styling on the new Chevy utilizes a new top with plenty of glass area. Practically maximum visibility is a feature on the Impala. The rear fender treatment relies on the famed finned look with a taste of sculptured styling thrown in. Another nice feature of the Chev is the "almost-but-not-

quite" matching of the front and rear wheel wells. This helps balance the appearance.

FRONTAL CHANGES

The front end received its share of modifications. The first step was the removal of all chrome trim from the hood and fenders. The fenders were then peaked while the open expanse separating the hood and the grille shell was filled in. Frenching the headlights was the next step. Stealing a neat little trick from owners of earlier Chevys, George added extra teeth to the grille after removing the chrome backdrop. A rolled body pan was next



RESTYLING

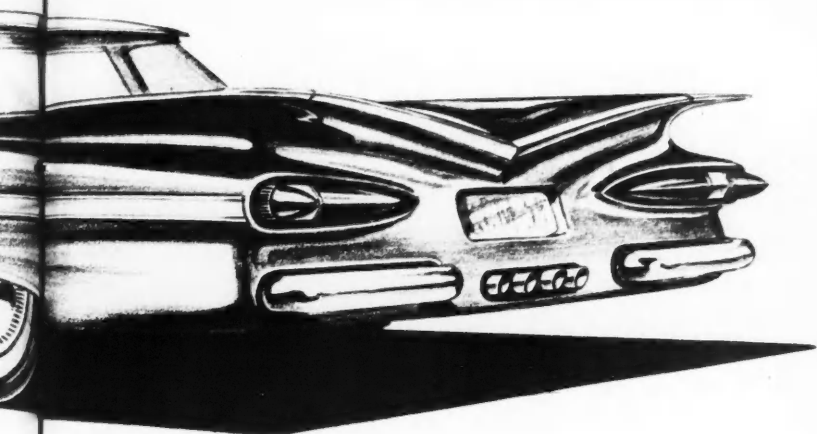
THE '59 CHEVROLET

in line for the Impala. Protecting the pan which is molded to the body is a set of two bumper bars constructed of three-inch "U" tubes. The front license plate, frenched in, has been centered between the tubular bars.

REAR ASPECT

Chromed parts not necessary for the design on the sedan were given the "heave-ho" and the holes filled. The rear body pan was rolled in accordance with the pan modification forward. Again, a balance between the front and the rear was achieved by the addition of the

dual bumper bars. Between the bumpers is a frenched opening with four exhaust pipes protruding. This seems to be one of the latest fads. Directly above this is the stock position for the license plate. This was frenched-in to smooth the opening. The taillights were discarded, as George felt that a combination of '58 Olds taillight lenses, clear back-up lenses, and '59 Cadillac taillights would lend themselves more distinctively to the rear section. Chevy's fin style works itself into a "dip" which culminates on the rear deck lid. George



discarded the bordering chrome pieces and molded in all seams.

DETAIL

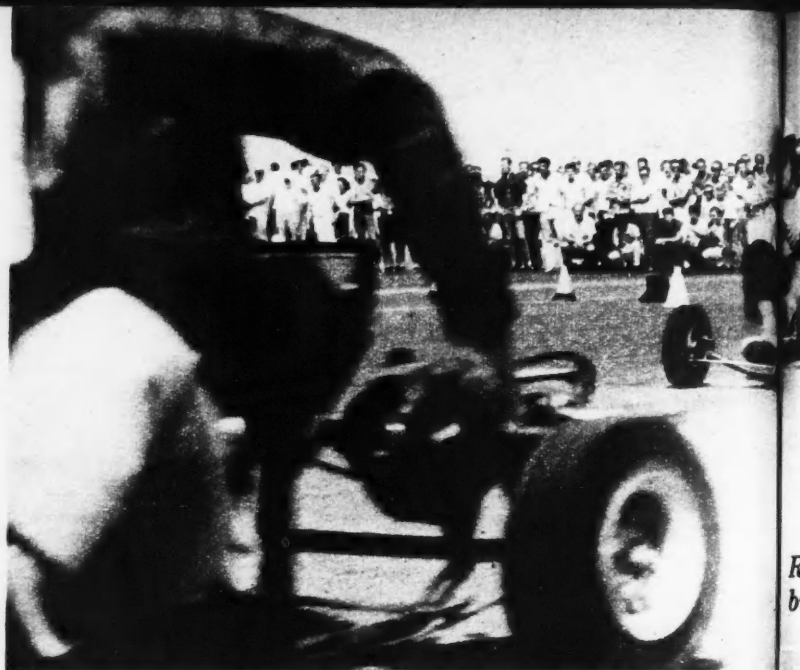
The paint chosen for the Impala would be left up to the owner, but George feels that either a solid paint job or a two-tone with the top in a lighter color would lend themselves extremely well on the '59 Sport Sedan.

There you have it, the first restyling of a '59 car. Next month we will follow it up with a customized 1959 Ford. See you then?

PARTS AND PRICE LIST

	LABOR (Parts included)
French headlights	\$ 90.00
Rework grille	35.00
Fill front vents	40.00
Shave hood, deck lid, fenders	27.00
Round hood corners	20.00
Build and french taillights	100.00
Roll pans front and rear	220.00
Build bumpers front and rear	170.00
French front and rear license	70.00
Mount four exhaust tips	40.00
Lower car	12.00
Paint (complete)	175.00

TOTAL \$999.00



Photos by Fred Beindorff, Pat Brollier

By Jim Gilbert

WHEN FIRST INTRODUCED, go karts consisted of only the barest of essentials to make them an inexpensive "fun" car. With simple frame construction, solid axles fore and aft, basic steering, and small sized engines, the karts amply fulfilled their chief goal.

But that was yesterday. Today the karts are in an experimental construction stage with many of the enthusiasts striving constantly to improve the cars by making them hotter and faster. True, the smallbore karts which fit into the "A" and "B" classes of competition categories do not require high speed chassis modifications found in the big engine league. They can compete with karts of equal size on even terms practically as they roll from the showroom floor. The truly experimental cars are those of the "C" division (11.01-16.5 cubic inches) where speeds of 50-60 miles per hour are not uncommon. To compensate for this performance, the handling characteristics and chassis designs are being hit from every angle to increase their capabilities.

Lowering the center of gravity by stepping the frame was one of the first steps. Sprung

suspension systems and improved steering setups are being designed to allow the "hot ones" to negotiate the corners and turn faster. Sides are added to the cockpit area to provide more comfort and maneuverability of the driver. Facilitating quick and positive braking, motorcycle binders are being installed as standard equipment for the miniature speedsters. The original two-cycle engine, although still very popular, is being swapped for small displacement motorcycle powerplants, multi-engine installations, and drone-plane mills to give more torque and acceleration. Safety is not overlooked, either. Although not as advanced as it could be, some karts do have protective shields and bulkheads perchance an engine should blow or a driving chain should let fly.

All in all, the karts are accomplishing what they started out to do — providing a low cost, safe, and casual automobile competition, while at the same time allowing experimental designs to flourish in an effort to further enrich the karting sport.

On the next few pages are the epitome of the go karts — the "HOT ONES."

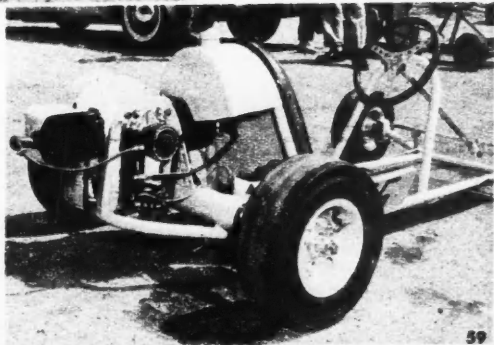


"Hot Karts"

Radical modifications in power and performance are bred into the experimental "formula K" racing karts



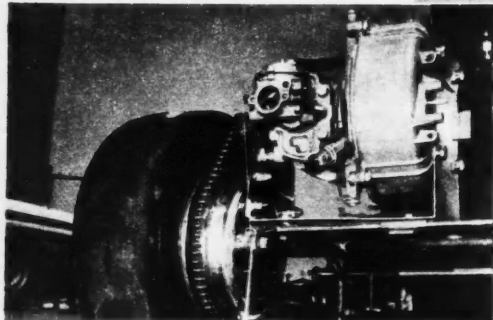
Drone-plane engined kart of Don Boberick features 16.5 cubic inch 2-cycle engine putting out 7 h.p. Tube frame construction has basic steering, dropped front axle, and sides added to rails for comfort. Heavy upholstery is also a standout feature.



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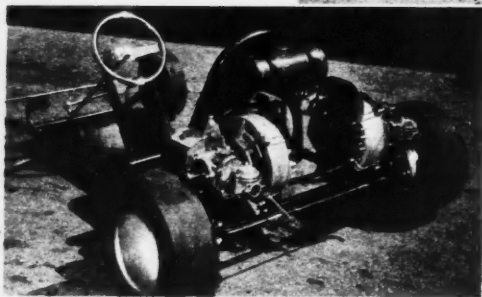
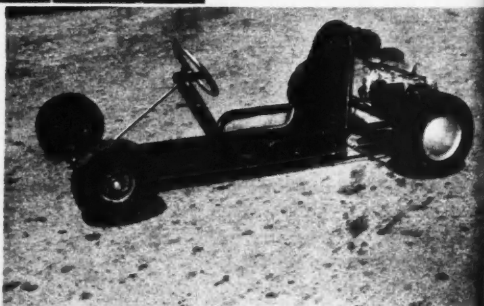
"Hot Karts"

Checking out finer details on the "Wasp," an experimental competition kart built by "Bug" Engineering Co., are Tom Pearson, "Bug" manufacturer, left, and Car Craft editor Dick Day. Several companies are in process of developing new types of karts.



Braking from speeds up to 60 mph for fast cornering, binders must be positive, fade-free. Builders are solving problem by adapting complete assemblies from imported motorcycles. "Wasp" design uses Triumph motorcycle brakes on both sides.

Dick Geer, head engineer for "Bug," and builder of prototype "Wasp," employed drag link type steering, deeply stepped frame design which lowers center of gravity. Steering assembly and axles are weldless.

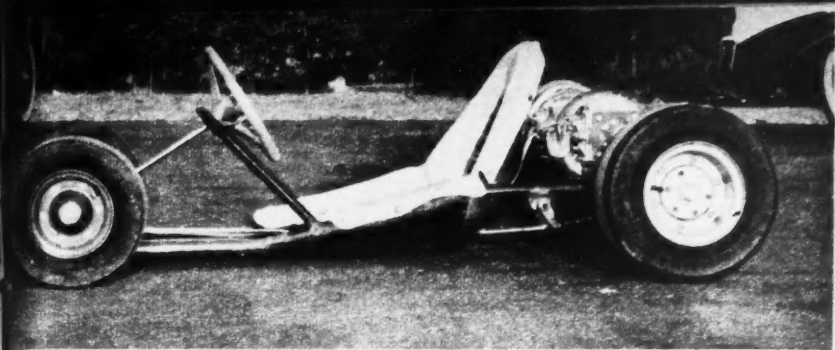


Dual-engine installation on racing kart produces over 12 horsepower. Special Clinton engines are used to power the test model. Throttle linkage is constructed of small round rod. Slick tires are used for maximum traction on the asphalt tracks.

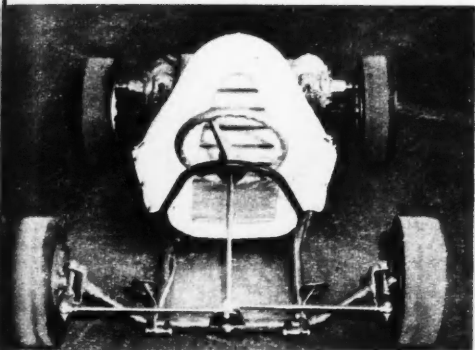
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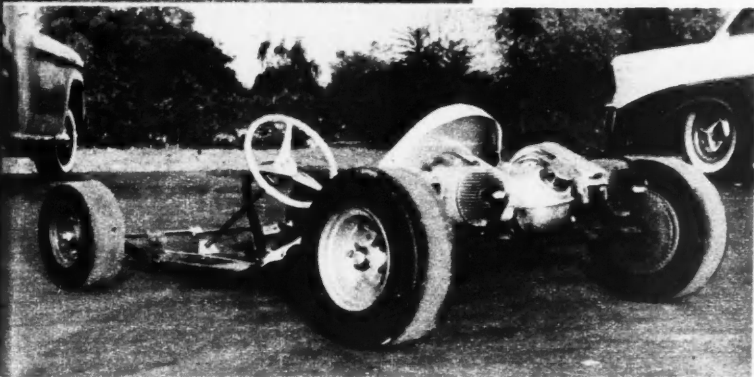
AFT NUARY, 1959



Another radically designed car features latest race-bred kart construction. Chrome-tube frame tapers to front, yet the wheel tread remains the same both fore and aft. Seating is at center in bucket design padded with thick rolled and pleated upholstery.



Steering shaft is adjustable to allow correction for end play. All moving parts, including the tie rod ends, have grease fittings which permit maximum life for parts. Front axle has been dropped severely to improve handling in the turns. Pedals work brake and gas and are connected by large diameter rods.



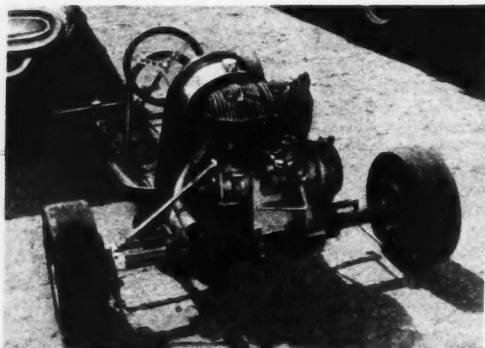
Two-stroke Power Products engines produce seven horsepower each at 10,500 revs per minute. Dual mills are run on fuel mixture and drive kart through 4.80 gear ratio to top speed in the high fifties. Production is slated for this kart by builder Beindorff.

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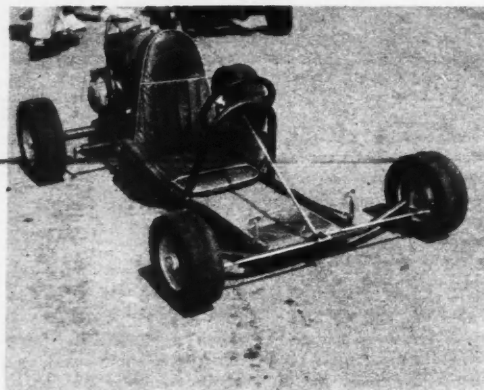
"Hot Karts"



The "hot ones" maneuver corners at top speeds. Driving techniques vary; some drivers carry corners wide retaining rpms, others with more low end torque take to the "pole." For this high speed action, cars must possess the best in brakes, steering, and traction.



One of the hottest karts competing today is Gill Horstman's potent Excelsior powered racer. Twin cylinder two-stroke engine possesses 15 cubic inches which whips car around at 60 mph. Full floating axle, brakes and sprocket assembly were pirated from utility motor scooter. Husky stabilizer bar minimizes twisting of frame and axle at high speed.

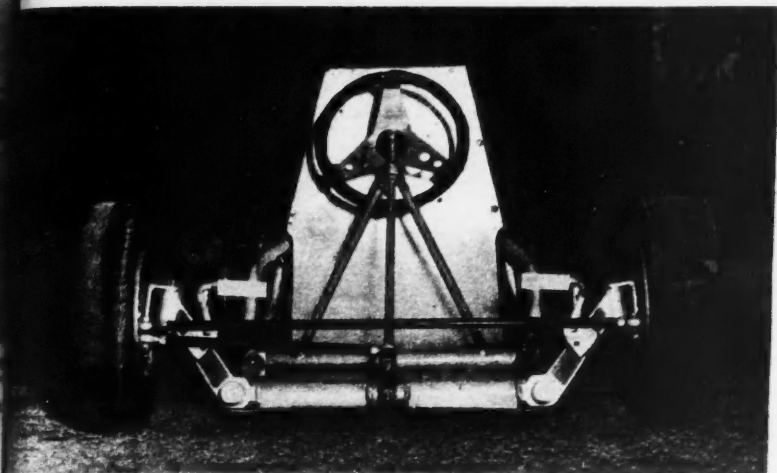


Twelve inch slicks are used both fore and aft for maximum traction. Direct steering is featured with cables actuating internal brakes and throttle. Cockpit employs side rails, almost a necessity at speed karts travel.

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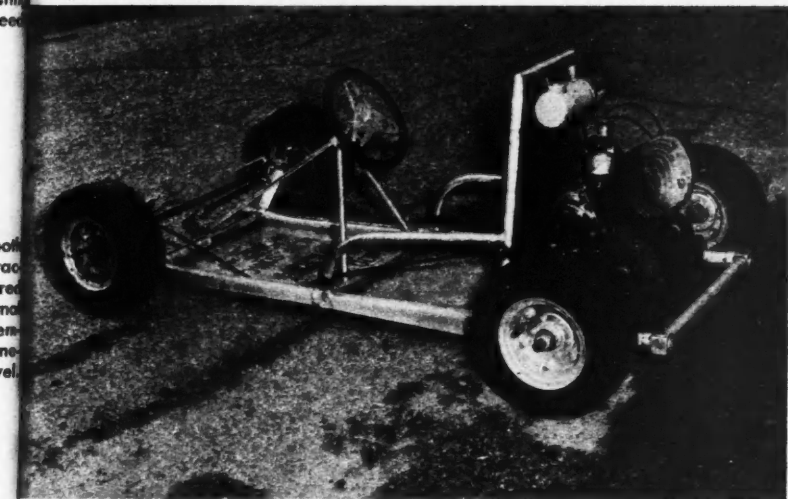
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Radical approach to lightweight kart construction can be found in Nick Nicholson's low-slung speedster. Front axle, machined from dural billet, is so designed that tapered frame tubes slip thru axle at lowest point and are secured with wedged pins. Ground clearance is one inch up front rising to two inches at rear. Drag link steering featured.

Punch for Nick's miniature bomb is in form of 12 cubic inch Villiers two-stroke engine. Frame rails are routed under the rear axle. Rear corners of frame are fused together with special steel caps. Size twelve slicks are used for tread in the front and the back.



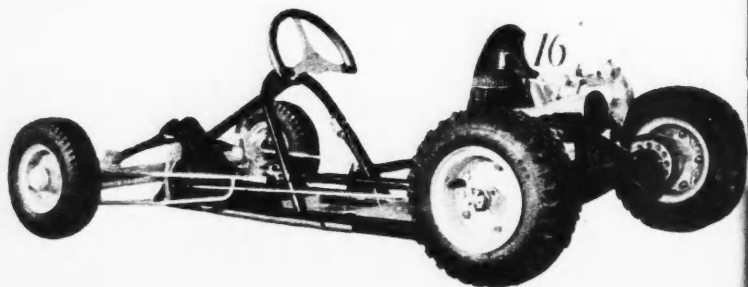
"Hot Karts"

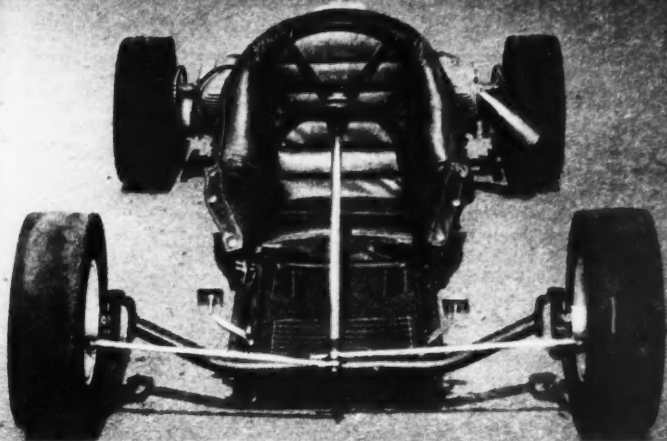


Due to minimum weight and small size, the go kart racer soon finds himself on his head as he doesn't conform with standard practice of applying radical "body english" in turns while traveling at a brisk clip. Body english balance is a proven motorcycle competition style.

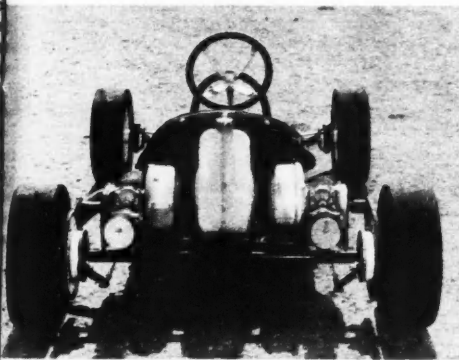


Bob Canaan is the first man on the scene with a full sprung front suspension system. Assembly consists of 1/4 midget front axle, special made leaf springs stabilized with short radius rattle to small frame pads. Fram stepped spring perch and steering are other unique items displaying Canaan's professional craftsmanship. Well designed and proves a real handler on course.



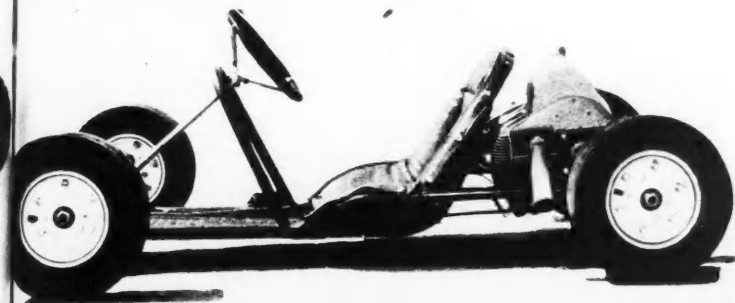


One of the most highly successful of all of the competition karts is the "Mole" built and owned by Duffy Livingston, noted sports car racer and part-owner of the Go Kart Co. The dropped front axle lowers the forward end of tube chassis. Steering is of basic design.



Motivation for "Mole" is combo of one 6.45 cubic inch Westbend mill and one 5.10 cubic inch Westbend which together can propel kart to speeds in excess of 50 mph. Gas tank made of 2 flywheel covers spliced together.

Plush bucket comfort is feature of the "Mole." Frame is stepped at center similar to most of the hot karts. Dual brakes, just in-board of drive sprockets, are from popular James lightweight motorcycle. Tread is 12" slicks.

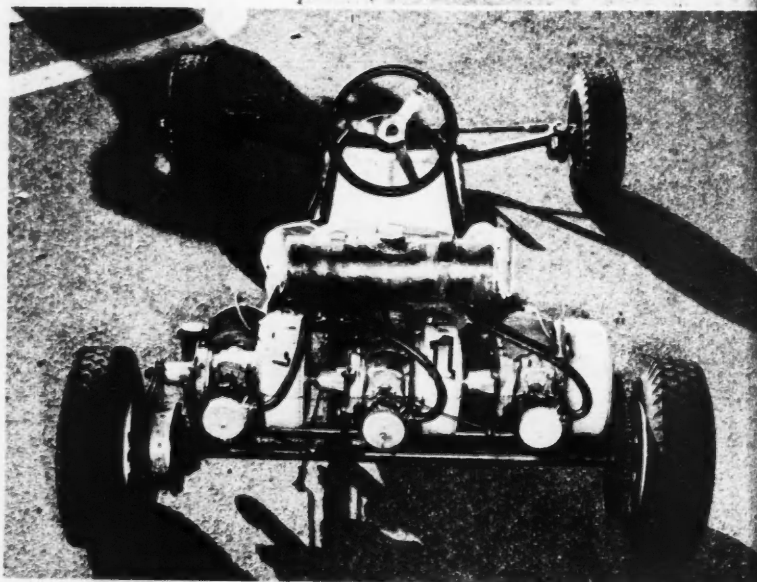
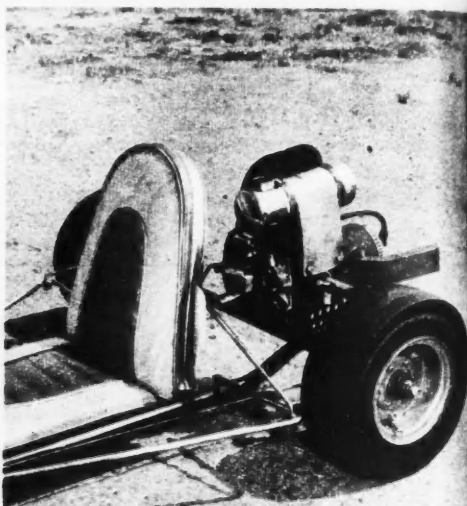


CONTINUED

"Hot Karts"

In search for additional horsepower for his small bore 750 McCullough engine, Bill Jefferies came up with this home-built injector. Car is consistent winner in its class "A" division.

Spence Murray's answer to the horsepower race was adapting of three engines. Triple installation of 750 Westbend engines necessitated widening axle. Left side and center powerplants are driven in unison; right wheel is driven by other engine. Brake is early model Cushman scooter. Murray, Rod and Custom editor, is devoted fan of kart racing.



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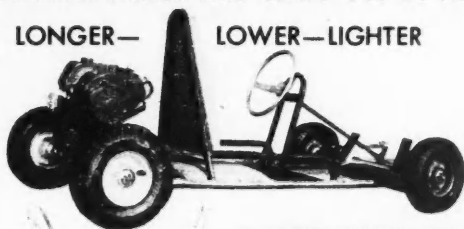
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WHAT'S YOUR PROBLEM?



By Don Francisco

TOO MUCH OF NOTHING

Dear Don:

I have a 1955 Ford V8 that is in good condition but it doesn't perform well enough to suit me. It has a two-throat carburetor and I have a chance to get a four-throat manifold and Stromberg carburetor in trade for my manifold and carburetor and a few dollars. I think the four-throat setup would make my car perform quite a bit better but I hear that the ignition distributor on my car can be used with a carburetor of this type. What couldn't I just connect the vacuum line from my distributor to the vacuum fitting on the Stromberg carburetor?

— Ken Cartwright
Salt Lake City, Utah

What you've heard is right, Ken. As far as the vacuum requirements are concerned, ignition distributors on 1955 Fords are considerably different from those used with Stromberg four throat carburetors. The entire spark advance range of the distributor on your engine is provided by the distributor's vacuum diaphragm. The vacuum diaphragm on the distributor used with the Stromberg carburetor provides supplementary advance in addition to advance provided by governor weights in the distributor. This additional advance comes into effect only under conditions of high intake manifold vacuum. Its purpose is to improve the engine's fuel mileage.

Vacuum for the Ford distributor originates in the carburetor itself and it is created by the velocity of the air flowing through the carburetor's venturis. The magnitude of this vacuum varies for the different engine models but for most of them it reaches a maximum somewhere

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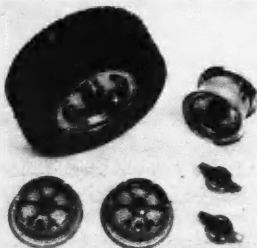
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WHAT'S YOUR PROBLEM? continued

between 2 and 4 inches of mercury. The sufficient vacuum to fully advance the timing. Although the vacuum fitting for the distributor used with the Stromberg carburetor is also the carburetor, the vacuum that acts on fitting and the distributor is intake manifold vacuum. Under certain conditions vacuum the manifold can be as high as 25 or 26 inches of mercury, and only when the engine is running at wide-open throttle does the vacuum drop below the 2 to 4 inches required to advance a Ford distributor. It can be seen that a Ford distributor connected to manifold vacuum would be fully advanced all the time the engine was running.

The best solution to this problem is to install the four-throat carburetor and then buy a good two-coil ignition distributor with a combination governor and vacuum advance that is designed to be used with manifold vacuum.

BACK SHAKER

Dear Don:

I have a 1951 Ford two-door sedan that seems to ride like a 1/2-ton pickup. The front end is quite soft but the rear end is rock-hard. I installed a set of Gabriel Adjust-a-Mile shock absorbers, set for "soft," and it helped, but I still can't see any sign of the rear end having hit the rubber bumpers on the frame, although I have carried at least 300 pounds of cinder block in the trunk on occasion.

Since I usually carry not more than one passenger, or a small amount of luggage, I want to make the ride somewhat softer. I'm wondering if reducing the spring rate by moving one or more of the leaves from the springs is a good idea, and if so, whether it could be done and how to go about it.

— Lyman de Camp
Wallingford, Pa.

The usual complaint with Fords such as yours is that the suspension is too soft, not too hard. I suggest you disconnect the rear shock absorbers and, with the rear wheels resting on a level ground, bounce the rear end of the car up and down. With the shocks disconnected the rear end should bounce quite freely; if it doesn't, there is something wrong with the springs.

Rear springs used on these cars are usually equipped with anti-squeak inserts that are retained in the recesses formed in the spring leaves near the ends. During normal wear these inserts wear away and allow metal to metal contact between the leaves. If this condition were allowed to continue it would be possible for the tension of

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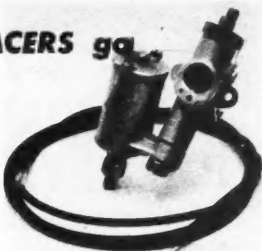


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**WHAT'S YOUR
PROBLEM? continued**

springs to be increased by the metal to metal contact to where the ride would be affected. New inserts are easily installed by lifting the car's frame to take the weight off the springs and then spreading the leaves and slipping the new inserts into place.

Another possibility is that someone installed springs or some other type of overload device on the rear of the car. However, you shouldn't have any difficulty in determining whether this has been done because such things are easy to see. Also, it is possible that someone installed 9-leaf station wagon springs on the car in place of its original 7-leaf springs. This can be determined by counting the number of spring leaves.

If nothing else works out, you may have to replace the rear springs with a set of new ones of the correct type for the car. Whatever you do, be sure to reconnect the shock absorbers before you drive the car.

UNHAPPY DRAGGER

Dear Don:

After getting waxed in my last three drag races I've decided to do something to my Chevy. It's a '57 two-door with a 283-inch engine. The engine is stock right now. I have to use my car every day so I can't tear it down for boring or stroking or anything like that. What I've decided to do is install a set of Hedman headers, a Corvette distributor, and a McGurk six-carburetor intake manifold. What other changes would you recommend?

— Art Kennedy
Phoenix, Arizona

As long as conditions make it necessary for you to restrict your engine work to bolt-on equipment, you're on the right track. Bolt-on equipment by itself is good for some performance increase but full advantage of its potential can't be realized unless modifications are made to the engine's innards. But if you can't park the car for a few days, you'll have to depend on bolt-on parts.

I can go along with the headers and the Corvette distributor but I can't agree with the six-carburetor intake manifold. Manifolds of this type were designed for all-out competition engines that have been bored, stroked, have reground camshafts, have been fitted with over-size valves, etc. I'm afraid one of them would provide more carburetion than an otherwise stock engine could use. This would result in poor low speed performance. The design of McGurk six-carburetor manifolds makes it pos-

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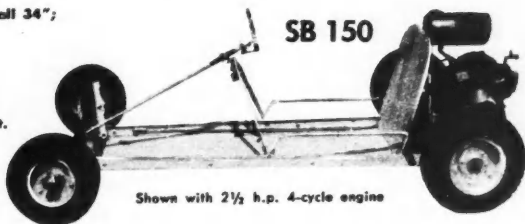
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WHAT'S YOUR PROBLEM? continued

sible to use them very satisfactorily with two or four carburetors but unless you plan to completely modify the engine in the future would be wiser to buy a three-carburetor manifold instead. A three-carburetor manifold and three two-throat carburetors would be ideal for your engine. When fitted with progressive throttle linkage adjusted to open the middle carburetor at low speeds and the end carburetors under full throttle conditions, the car would run well at low speeds and have ample carburetion at high speeds. Give it a try.

When you install the Corvette distributor you might be a good idea to install one of the special high-performance coils now available.

TOP SECRET OLDS

Dear Don:

I have a '51 Olds in which I am planning to install a '57 Olds engine, stock except for 3 dual carburetors, thru an early La Salle with the stock rear end. The Olds should sit right in my car with no sweat, but what clutch etc., should I use? I plan to rewire the complete car and change all bulbs, which will be quite a job, but I think it will be worth the trouble. I expect to turn 90 in the quarter mile. Any advice, criticisms, or suggestions would be highly appreciated.

In the looks department I am nosing, deding, and removing all side trim except one piece on the rear fender. '55 Chrysler tail lights, '56 Olds rear bumpers, frenched lights and I'm still thinking about the grille. I am going to use dropped spindles, cut springs in front and remove a leaf in back and 14

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wheels for lowering. I don't think I will have to "C" the frame if I use heavy-duty shocks and air supports in my coils. The rest of my custom ideas are "Top Secret."

What do you think about using smaller wheels and tires (7.50-14)? I am now using 60-15's. Will the smaller tires slow my quarter-mile speed much or not? What about brakes? Can they get enough air?

—Gene R. Cunningham
Jacksonville, Florida

Cad-La Salle transmission can be adapted to an Olds engine quite simply. Adaptors for this purpose are available for approximately \$16.00. A stock Olds stick-shift flywheel, pressure plate, and driven disc assembly are used, along with stock Olds clutch release linkage. These parts are available from any Oldsmobile dealer. If the car was equipped originally with Hydramatic transmission it will be necessary to install a clutch pedal and gearshift linkage. Cad-La Salle transmissions are available with either a floor shift lever or for steering column right shift. Conversion kits that enable a floor shift lever to be used with a column shift box are available for \$34.50. The gearshift extension over costs \$3.50 in black and \$5.00 in chrome. Fourteen-inch tires instead of fifteens will lower the car's final drive ratio but the amount will depend on the actual circumference of the new tires compared to that of the old ones. It's possible that they could help the quarter-mile speed because the ideal final ratio for a specific car depends on the combination of its rear axle ratio and tire size.

Brake cooling with fourteen-inch wheels is definitely not as good as with fifteens because of the reduced clearance around the brake drums. However, for normal driving you should encounter any difficulty.

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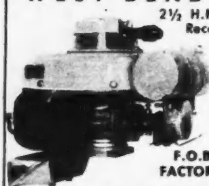
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BLOWERS

multiple aircraft carburetors, another Hilborn injector setup of the closed-type, and the third was an open-face Hilborn injector setup. A closed-face injector system is one that controls air flow into the blower by means of a pair of throttle valves, also feeds fuel into the air stream entering the blower but has its main fuel feed nozzle in the legs of the log-type intake manifold close to the ports in the heads. An open-face system is one that utilizes a regular injector setup made for a normally-aspirated engine. Air flow to the cylinders is controlled by the throttle valves in the injector air inlets, all fuel for the engine flows through standard injector nozzles. Nothing is fed to the inlet side of the blower.

McCulloch centrifugal blowers were used in a number of installations. One of them used a single blower that forced air into the inlet of a standard Hilborn injector. Another used two blowers, one on each side of the engine, that forced air through two partially enclosed carburetors of the type used on Ford V8 engines fitted with factory supercharger installations. Still another used two blowers in a two-stage installation. Air from the blower was fed into the inlet of the other which boosted the pressure of the air even higher before delivering it to the engine. Two-stage supercharging can provide high boost pressure but it has the inherent disadvantage of heating the air that passes through the blowers to high temperatures. As the temperature of the air delivered by any blower goes up, the weight of the air in relation to its volume drops. The same volume of air is forced into the engine's cylinders but the weight of the air, not the volume, is the factor that is important to engine performance.

Though Latham axial-flow blowers were the minority the cars that had them performed quite well. The blowers were fitted with multiple side-draft Carter carburetors. Latham blowers are driven by a wide belt that has a rubber-base friction surface and they are unique in the present crop of available units in that they don't have internal gears or speed multiplying device to wear or give trouble. The shaft that supports the blower's rotor revolves in two bearings and all speed multiplication is pro-

ided by the diameters of the driving and driven pulleys.

All blower installations have one thing in common and that is their high cost. Manufacturers of blowers and installation kits for passenger cars often compare this cost with that of reworking a normally-aspirated engine by conventional methods to show that a blower can be installed for the approximate cost of gaining somewhere near the same horsepower output by other methods. But this comparison doesn't hold water for a competition engine. A competition engine that is to be expected to be a winner must be modified in the conventional manner before the blower is installed. This can involve spring, stroking, camshaft regrinding, porting, installation of a good exhaust system, installation of a suitable ignition system, adjusting the engine's compression ratio so the actual compression pressures made possible by the blower won't be too high for the octane rating of the fuel to be used, etc. Also, in addition to the modifications made to improve the engine's horsepower output, other modifications are usually necessary to help the engine hold the high combustion pressures and stay together. These modifications include machine work on the cylinder block to permit the installation of special or additional sealing members between the block and the cylinder heads, installation of steel main bearing caps or devices designed to strengthen stock caps, and installation of full-length or heavy-duty connecting rod inserts. When all these things are done, and they must be done if the engine is to be at all successful, the final cost of a blown engine can be satellite high.

For drag racing, under NHRA rules, the difference in the cost of gasoline for a season's competition with a blown engine and that of alcohol and the nitro and other additives that would be used by an unblown engine for the same performance might go a long way toward making up for the cost of the blower installation. This wouldn't be the case for Bonneville, where it is permissible to use any type of fuel, or for competition drag strips that don't operate under NHRA sanction and therefore don't have the restrictions. But expensive or otherwise, make up your mind now to run a blower on your car if it has only one engine and you intend to be a dragstrip or Bonneville man in '59.

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BUICK RIMS

Dear George:

Can I put Buick ('54) headlight rims on '51 Ford? Will the job be difficult? Thank you for your much-needed help.

—Ronnie Navarro,
Summit, New Jersey

Yes, Ronnie, this installation has been performed before with much success, but it is a job that will consume much time and money. However, the results are very gratifying.

MERC FOR FORD

Dear George:

I have a '47 Ford 2-door sedan that I am customizing. I would like to french the headlights and would like to know if the '52 Mopar ring will work? Are they the best for this job? What kind of taillights would you suggest?

Thanks for any information.

—Tom Reed,
Burkburnett, Texas

The deep '52 Merc ring is about the best for the job, Tom. For the taillights I would suggest that you try '49 Mercury lenses set in a chrome bezel in the rear fenders.

HOOD HUMP

Dear George:

I have a 1949 Ford and I would like to know if there is a hood that will fit that doesn't have the hump in the middle?

— Garry Moyer
Eldred, Pa.

You are lucky, Garry, in that there is a hood that will fit perfectly on your Ford and does not have the hump. Use a '51 Ford hood to answer your problem.

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Dear George:

I have a '53 Merc which I am planning to customize in the near future. I want to fin the rear fenders, but don't know how to go about it. How much will it cost me if I do the job myself?

— George Tester
Portland, Oregon

Well George, you are taking on a mighty big job. My guess at a "do-it-yourself" job would be about \$100.00.

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STATEMENT REQUIRED BY THE ACT OF AUGUST 26, 1912, AS AMENDED BY THE ACTS OF MARCH 3, 1933, AND JULY 2, 1946 (Title 39, United States Code, Section 233) SHOWING THE OWNERSHIP, MANAGEMENT, AND CIRCULATION OF CAR CRAFT MAGAZINE, published monthly at Los Angeles, California, for October 1, 1958.

1. The names and addresses of the publisher, editor, and business managers are:

Publisher: Robert E. Petersen, 5959 Hollywood Blvd., Los Angeles 28, Calif.

Editor: Dick Day, 5959 Hollywood Blvd., Los Angeles 28, Calif.

Managing editor: Don Evans, 5959 Hollywood Blvd., Los Angeles 28, Calif.

Business manager: T. A. Johnson, 5959 Hollywood Blvd., Los Angeles 28, Calif.

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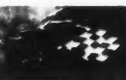
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